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THE NEARER CAUSES OF CANCER

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More than twenty-five years have passed since man first learned how to call forth cancer for his purposes. Throughout the centuries he has seen it follow on exposure to sunlight and watched it arise in old scars; yet only so recently has he felt any need to produce it. By 1915 though, the task had become inevitable and insistent: to get on further with the cancer problem, to grapple with immediate causes, the searcher had to study the disease at its origin. Now he can call it forth in any one of many ways and follow its emergence from hour to hour if he chooses. Yet still he is like an Aladdin who calls forth a genie that he does not understand, much less control; and the meetings of societies for cancer research are like gatherings of Aladdins, with great talk of how most surely to evoke the genii, and of how soonest, and from what sort of bottles, and of why the genii come and, having come, behave as they do. The present lecture is concerned with these last questions.

Something should be said in preliminary on the place of cancer among the tumors. It is that of an extreme instance, no more. The distinction necessarily made in practice between benign and malignant growths, though vital to the patient, is not expressive of any basic cleavage save in the case of the teratomas and other self-limited, developmental anomalies that manifestly are not true neoplasms. In the days when only human tumors were studied it was noted that some growths in the benign category, if let alone, would enlarge until they killed; and instances were now and then encountered, e. g. adenomas of the thyroid gland, which though orderly and seemingly harmless gave metastases.[1] Later, when the transplantation of animal tumors was undertaken, some spontaneous benign growths were successfully transferred, and these proved able to grow indefinitely, killing host after implanted host by the sheer bulk of their demands, the Ehrlich chondroma for example. Now with experimental carcinogenesis a busy, laboratory occupation, the fact has come to light that the agents which call forth carcinomas and sarcomas evoke as well a wide array of neoplasms, from the most malignant to some which have so little initiative as to require aid if they are to exist at all.[2] Here is more evidence that the benign tumors and the cancers are only individual expressions of a single, strongly characterized neoplastic principle.

Deviations from this principle, Kaposi's sarcoma for example, are few and significantly rare. So well do present day investigators realize the essential unity of the tumor problem that they undertake work with experimentally induced hepatomas, papillomas, adenomas and other benign growths in the sure belief that what these may tell will contribute somehow to the understanding of carcinomas and sarcomas. Indeed they apply the term carcinogenic as matter of course to agents which not infrequently call forth a horde of benign neoplasms for every ultimate one that is malignant; and they look on such neoplasms as indicators of carcinogenic power. It is often and truly said that the tumors as a class represent a multiplicity of diseases; but this is because the character of each individual growth is largely determined by the specializations and inherent capabilities of the cells from which is has sprung as result of neoplastic change. When this change occurs, elements which had appeared identical in form and function may give rise to widely differing tumors, their possibilities gaining different exploitation. Yet the neoplastic principle implicit in them is no less single because of the variety of its manifestations.

Pathologists have realized for a long time that normal cells while functioning may behave for a brief while as if neoplastic, those of the chorion for example. In 1906 it was found that the intradermal injection of oily solutions of certain dyes, notably scharlach R and sudan III, was frequently followed by local downgrowths of the epidermis in narrow strands which penetrated amid the corium and sometimes entered lymph vessels, giving a picture which wholly resembled anaplastic, squamous cell carcinomatosis, except for the droplets of stained oil in the tissue.[3] The malignant activities continued only so long though, as dye was present, the epidermis eventually forming an orderly layer around the decolorized oil: the stimulus experimentally provided had run out, but a further temporary downgrowth could be obtained by repeating the injection. These phenomena not only made it plain that ordinary cells are able to behave as if cancerous in response to extraneous influences but they justified the inference—though this was not made at the time—that an actuating cause for tumors need only work on capabilities which cells innately possess, and go along with them as they multiply in response to its presence. This is not to say that a tumor cell can be regarded as merely a stimulated normal cell: whatever causes it to become neoplastic often renders it unhealthy and frequently induces metaplasia. All in all it now seems superfluous and a bit grandiose to assume, as has been easy in the past, that the cause for the cancerous process is a secret bound up with life itself. There is no need even to sup-

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1. Ewing, James: Neoplastic Diseases: A Treatise on Tumors, ed. 3, Philadelphia and London, W. B. Saunders Company, 1928.

2. Rous, Peyton; and Kidd, J. G.: Conditional Neoplasms and Subthreshold Neoplastic States. A Study of the Tar Tumors of Rabbits, J. Exper. Med. **73**: 365 (March) 1941.

3. Fischer, B.: Die experimentelle Erzeugung atypischer Epithelwucherungen und die Entstehung bösartiger Geschwülste, München. med. Wchnschr. **53**: 2041 (Oct. 16) 1906.

pose that tumor cells are the outcome of some inherent, fundamental cell change, though this is a favorite supposition.

On scrutinizing a representative list of the agents which act in such a way on tissues that tumors result (table 1), one sees straight off that most of them cannot be the actuating causes of the growths they call forth. The point need not be labored for the mechanical and physical agents—gallstones, ill fitting horse harness, the roentgen rays, heat or freezing, and so forth. These may do their injury and be gone months or years before tumors develop. And animal parasites, tubercle bacilli for instance, Bilharzia and the larvae of the worm Cysticercus (which become encysted in rat livers with the consequence that sarcomas arise from the cyst wall) are rapidly left behind as the tumors enlarge that they have provoked. Plainly in all such cases one must look to some factor accompanying the cells, or to an intrinsic alteration in them, in accounting for their new state.

Chemical agents of widely diverse sorts will give rise to tumors on test. By painting the skin of mice with weak hydrochloric acid, potassium hydroxide or tar made from human skin it is possible to evoke carcinomas, and the injection of lard or olive oil into the subcutaneous tissues sometimes results in sarcomas; but

TABLE 1.—*Diversity of the Carcinogenic Agents*

Mechanical irritants (e. g. gallstones, ill fitting bridles or horse harness)	
Roentgen rays	Freezing and thawing
Radium	Heat (burns)
Ultraviolet light	
Aniline dyes	Extracts of cancerous organs
Coal tar	Tar from animal tissues
Synthetic hydrocarbons	Animal fats
Other complex, pure substances	Dextrose
Hormones (estrogens, pituitary hormone)	Potassium hydroxide
	Hydrochloric acid
Parasites (e. g. tubercle bacilli, Cysticercus larvae, Bilharzia)	
Viruses	

all this has no likeness to natural conditions. Such complex materials as tar may contain however something carcinogenic which the body is capable of manufacturing; and actually a hydrocarbon of pronounced carcinogenicity, methylcholanthrene, has been synthesized, which is nearly related chemically to the bile acids.[4] Furthermore, certain substances normally made by the organism and functioning for it in important ways, the estrogenic hormones in special,[5] have proved capable of bringing about tissue changes which have tumor formation as their consequence; and extracts of human cancers or of the organs of cancerous individuals will call forth tumors now and again when brought to bear on the tissues of mice.[6] Some of the polycyclic hydrocarbons do so with striking sureness and rapidity, papillomas and cancers appearing on the skin within a couple of months; and there are viruses which produce growths in chickens and rabbits within a few days after inoculation. In the latter instances the gap between cause and effect would appear on first sight to have been significantly narrowed. To learn whether this is really the case has become a prime duty of cancer workers.

The pathologist Ribbert, who made rewarding studies of the first stages of human carcinomatosis, used to say that the cancer problem would finally be solved through the utilization of growths arising from the skin, since there one can follow events most closely. The first event after a chemical carcinogen is painted on the skin has proved to be in nearly every instance a non-neoplastic cell disturbance which has many of the features of a low grade, chronic inflammation of ordinary sort and might be taken for such except that out of it tumors come. Observers agree that the neoplastic change is no mere exaggeration of the disturbance but something discontinuous in character, new, strange, abrupt and irreversible; and it does not take place everywhere throughout the expanse of abnormal tissue but only here or there, often at several or many spots, as a seemingly punctate alteration. In microscopic sections from interior organs submitted to the carcinogens one can usually perceive a similar course of events, first a tissue disorder throughout the implicated region, entailing cell proliferation ordinarily, and then a starting forth of growths at one point or another. The happenings are much the same when true tumors appear on the basis of developmental anomalies, the latter being carcinogenic in the sense that they provide a terrain suited to neoplastic change (von Recklinghausen's disease for example, intestinal polyposis, the retinal disturbance preliminary to malignant gliomas[7]). The action of the sex hormones is more various. When contributing to tumor formation they may merely stimulate gland tissue to develop, in this way providing the cells on which other carcinogenic agents can act, or if supplied in excess they may themselves produce the tissue disorder out of which tumors come. And they may do still more: they may urge neoplastic cells on, so that they multiply into tumors, as in the case of those prostatic cancers which retrogress after orchiectomy.[8] Sometimes they act in all these ways. Little has been learned as yet of the mode of action of the carcinogenic extracts of normal and cancerous tissues,[9] but this little would seem to indicate that it is of the ordinary sort, the extracts producing a chronic disturbance on the basis of which neoplastic change may or may not supervene after a considerable lapse of time. The only carcinogenic agents which are known to produce tumors by direct action are the neoplastic viruses. And prior to any discussion of how these act it is necessary to ask whether they engender true tumors.

The growths which have been traced to the action of viruses are few in comparison with the multitude of those for which no cause is known; yet their number and variety are not inconsiderable. They are notably frequent in the domestic fowl, and study has proved them to be typical tumors not only in morphology and behavior but in collateral respects, notably in incidence.[10]

4. Cook, J. W.; Haslewood, G. A. D.; Hewett, C. L.; Hieger, I.; Kennaway, E. L., and Mayneord, W. V.: Chemical Compounds as Carcinogenic Agents, Am. J. Cancer **29**: 219 (Feb.) 1937.

5. Gardner, W. U.: Estrogens in Carcinogenesis, Arch. Path. **27**: 138 (Jan.) 1939.

6. Shabad, L. M.: Production expérimentale de tumeurs malignes par un extrait benzénique du foie d'un cancéreux: A propos de la question des substances cancérigènes endogènes, Compt. rend. Soc. de biol. **124**: 213 (Jan. 23) 1937; Nouvelles données relatives a l'orientation expérimentale des tumeurs par un extrait benzénique du foie d'un cancéreux: A propos des substances blastogènes endogènes, ibid. **126**: 1180 (Dec. 18) 1937.

7. Weller, C. V.: The Inheritance of Retinoblastoma and Its Relationship to Practical Eugenics, Cancer Research **1**: 517 (July) 1941.

8. Huggins, Charles; Stevens, R. E., Jr., and Hodges, C. V.: Studies on Prostatic Cancer: II. The Effects of Castration on Advanced Carcinoma of the Prostate Gland, Arch. Surg. **43**: 209 (Aug.) 1941.

9. des Ligneris, M. J. A.: The Production of Benign and Malignant Skin Tumors in Mice Painted with Bantu Liver Extracts, Am. J. Cancer **39**: 489 (Aug.) 1940.

10. Rous, Peyton: Transmission of a Malignant New Growth by Means of a Cell-Free Filtrate, J. A. M. A. **56**: 198 (Jan. 21) 1911; An Avian Tumor in Its Relation to the Tumor Problem, Proc. Am. Phil. Soc. **51**: 201 (July) 1912. Gye, W. E., and Purdy, W. J.: The Cause of Cancer, London, Cassell and Company, 1931. Claude, Albert, and Murphy, J. B.: Transmissible Tumors of the Fowl, Physiol. Rev. **13**: 246 (April) 1933. Foulds, L.: Filtrable Tumors of Fowls: A Critical Review, supplement to Eleventh Scientific Report of the Imperial Cancer Research Fund, London, 1934.

They occur hither and yon like human tumors, their natural distribution seeming all against any relationship of one to another. Sarcomas in wide variety, fibromas, myxomas, osteomas, chondromas, an endothelioma and several kinds of leukemia have all proved due to viruses, with carcinomas still to be investigated; and workers in this field have lately concluded that every spontaneous chicken tumor will yield a causative virus if only it can be successfully transplanted and its vigor enhanced by passage in a series of favorable hosts.[11]

Within the last few years kidney tumors due to a virus have been discovered in the swamp frog (Rana pipiens).[12] The growths originate from the epithelium of the renal tubules, and they range histologically from orderly adenomas to invasive adenocarcinomas which metastasize by means of cell emboli. They can be transplanted and they resemble the classic tumors histologically except in one respect—the cell nuclei contain large inclusions in most instances, such as a virus may cause. Inclusions of this sort are rare in human neoplasms though they do occur in certain growths of the central nervous system.[13] The more orderly of the frog tumors sometimes show no inclusions, then appearing wholly typical, a fact not without significance as bearing on cell-virus relationships.

These tumors of chickens and frogs seem distant from the human problem. But recently a virus has been discovered[14] in the huge, keratinized horns and warty excrescences—epidermal papillomas—which western cottontail rabbits sometimes carry on their skin; and the growths have been found to exhibit all of the immediate traits which characterize tumors as a class.[15] When the virus is rubbed into the scarified skin of domestic rabbits it gives rise to papillomas which often grow with remarkable vigor and become carcinomatous within a few months.[16] Indeed in its power to bring on rabbit cancer rapidly the virus outstrips all the other carcinogenic agents known.

The papillomas are in general well tolerated by the cottontails which are their native hosts, but they may temporarily behave as if malignant, simulating squamous cell carcinomas histologically, invading and replacing the muscle beneath them and penetrating into the blood and lymph vessels and along the latter to the nearest lymph node, like certain carcinomas of the human mammary gland,[17] yet even such growths after a while take on the ordinary, keratinizing, papillomatous form and no longer threaten the life of the host. Genuine cancer does occur though as a late and occasional event.[18] The papillomas are often multiple and the derivative malignant tumors may be multiple too; cottontails have been trapped which carried squamous cell carcinomas in every stage of development, as many as sixteen on the skin of a single rabbit, each derived or deriving from a separate papilloma. Metastases to the lymph nodes and lungs are frequent.

The papillomas resulting from the inoculation of domestic rabbits—to which the virus is foreign—may attain immense size before cancer develops and bring about death through sepsis and hemorrhage. If the virus-infected cells are inadvertently dislodged or purposely injected into the blood stream, they survive in the lung tissue to which they are transported and form secondary nodules there by intrinsic cell proliferation, induced pulmonary metastases as one might say. Always, if the papilloma grows progressively—for sometimes it dwindles and disappears—cancer ultimately develops, and at many points in the proliferating mass if the animal lives long enough. But the malignant change occurs only after nearly four months at the earliest, and usually half a year or more must have elapsed. How the cancers come about will be discussed further on. Here only the immediate effect of the virus will be considered, and this regularly finds expression in papillomas.

On looking into the relation of the neoplastic viruses to the tumors they engender, one perceives several profound differences from the other known carcinogens. The viruses do not act obliquely or at any remove, but they directly change the cells they infect into neoplastic cells without giving rise to any intermediate tissue disturbance. What is more, they accompany the changed cells as these multiply into tumors, increase in amount as the latter enlarge, and can usually be recovered from the proliferating tissue in a state to produce growths of the same kind in fresh hosts. When they cannot be got, their presence is demonstrable by serologic tests, since they induce the formation of specific antibodies, these appearing in the blood of the hosts. They maintain a working relationship with the cells they have infected, continually urge the latter to neoplastic activities and, in short, do precisely what extraneous agents would have to do, judging from the observed effects of scharlach R, if they functioned as the actuating causes of tumors. None of this holds true of any of the other carcinogens, those already discussed. Some disappear from the tissues before the neoplastic process begins and the others soon afterward. Even the most potent of the chemical agents is diluted out as the tumors due to it increase in bulk, and soon no trace of it can any longer be demonstrated. True, extracts of human carcinomas will now and again give rise to tumors in mice. But so too, though less frequently, will extracts of normal tissues, while furthermore the mouse tumors which these materials induce (sarcomas, epidermal papillomas which may become cancerous secondarily) are of the kinds which follow also on the action of various agents that can scarcely have a near relationship to natural neoplastic processes. As already stated, the introduction of foreign fats, e. g. olive oil or lard, or the repeated injection of sugar, will cause sarcomas to arise in mice (though mouse fat will not), and the repeated application of oleic acid to the skin of these animals[19] and of benzene to

11. Foulds, L.: Observations on Nonfiltrable Fowl Tumors: The Production of Neutralizing Serums Against Filtrates of Rous Sarcoma I by Noninfective Extracts of a Sarcoma Induced by 1: 2: 5: 6-Dibenzanthracene, Am. J. Cancer **31:** 404 (Nov.) 1937.

12. Lucké, Balduin: A Neoplastic Disease of the Kidney of the Frog Rana Pipiens, Am. J. Cancer **20:** 352 (Feb) 1934; Carcinoma in the Leopard Frog: Its Probable Causation by a Virus, J. Exper. Med. **68:** 457 (Oct.) 1938.

13. Russell, D. S.: The Occurrence and Distribution of Intranuclear "Inclusion Bodies" in Gliomas, J. Path. & Bact. **35:** 625 (July) 1932.

14. Shope, R. E.: Infectious Papillomatosis of Rabbits, J. Exper. Med. **58:** 607 (Nov.) 1933.

15. Rous, Peyton, and Beard, J. W.: A Virus-Induced Mammalian Growth with the Characters of a Tumor (the Shope Rabbit Papilloma): I. The Growth on Implantation Within Favorable Hosts; II. Experimental Alterations of the Growth on the Skin: Morphologic Considerations: The Phenomena of Retrogression; III. Further Characters of the Growth: General Discussion, J. Exper. Med. **60:** 701, 723, 741 (Dec.) 1934.

16. Rous, Peyton, and Beard, J. W.: The Progression to Carcinoma of Virus-Induced Rabbit Papillomas (Shope), J. Exper. Med. **62:** 523 (Oct.) 1935. Rous, Peyton: The Virus Tumors and the Tumor Problem, Harvey Lecture, Am. J. Cancer **28:** 233 (Oct.) 1936.

17. Handley, W. S.: Cancer of the Breast and Its Treatment, ed. 2, London, J. Murray, 1922.

18. Syverton, J. T., and Berry, G. P.: Carcinoma in the Cottontail Rabbit Following Spontaneous Virus Papilloma (Shope), Proc. Soc. Exper. Biol. & Med. **33:** 399 (Dec.) 1935. Kidd, J. G., and Rous, Peyton: Cancers Deriving from the Virus Papillomas of Wild Rabbits Under Natural Conditions, J. Exper. Med. **71:** 469 (April) 1940.

19. Twort, C. C., and Fulton, J. D.: Further Experiments on the Carcinogenicity of Synthetic Tars and Their Fractions, J. Path. & Bact. **33:** 119 (Jan.) 1930.

rabbit skin will cause papillomas to appear.[20] Yet though these facts make against the possibility that the extractives from human carcinomas are the actuating causes of tumors, this does not mean that the finding is devoid of significance. On the contrary, it strongly implies that the disordered body may now and again manufacture substances which so disturb the tissues that tumors result.

TABLE 2.—*Examples of Summated or Substituted Carcinogenic Action*

Carcinogens	Authority
Beta radiation—benzpyrene	Mottram
Benzpyrene—x-rays	Mayneord and Parsons
X-rays—dibenzanthracene	Mayneord and Parsons
Estrogen—benzpyrene	Mottram; Gilmour; Perry and Ginzton

Not only do the viruses render normal cells neoplastic when inoculated experimentally, and maintain a partnership with them subsequently, but everything goes to show that they function in this way under natural conditions. All of them were originally procured from "spontaneous" tumors of one sort or another, and on subsequent inoculation all have given rise to growths essentially like those from which they were first obtained, a virus derived from myxomas producing only myxomas, an endothelioma virus endotheliomas, and so on. In this specificity of effect they are sharply different from the carcinoma extracts just discussed. Their determining influence on the kind of tumor they produce is most striking, and it sometimes results in growths of such highly complex character as could only result, one might have supposed, from innate cell peculiarities. They are enabled to produce these growths (for example osteochondrosarcomas, intracanalicular sarcomas) because they influence cells of certain kinds only and exploit their latent capabilities. Not infrequently they injure the elements they infect, with result in cytologic changes indicative of damage, like those occurring in the tumors due to causes as yet unknown.

The other carcinogenic agents thus far considered determine the type of tumor they call forth only so far as they have affinities for certain organs or tissues, which in consequence bear the brunt of their effect; and even when these affinities are pronounced, tumors of several kinds usually result from their action. The carcinogenic azo dyes, which have attracted great attention of late as affecting the liver in special, elicit not only benign and malignant hepatomas and cholangiomas but reticuloendotheliomas as well, and sarcomas of the connective tissue, pulmonary tumors and hemangiomas, mostly amid adipose tissue,[21] and sometimes papillomas of the stomach and urinary bladder. The estrogens, besides inducing growths in the glands they specifically influence, may call forth spindle cell sarcomas or lymphomas when injected subcutaneously.[5] There would seem to be no reason why a chemical carcinogen should not be so selective as to act on only one sort of cell and in some unique way, with result in a neoplasm distinctive of its action, but thus far none has been discovered. Certain of the polycyclic hydrocarbons, notably benzpyrene and methylcholanthrene, are pancarcinogens, capable of bringing about neoplastic changes in cells of so many kinds that as yet no limit has been reached in this respect. They produce papillomas and carcinomas of the skin, sarcomas of all sorts and at many situations, rhabdomyomas and leiomyomas, bone tumors, lymphomas, tumors of the liver, lung, breast and uterine tissues, the galaxy of brain tumors, and many growths besides, as also leukemias, according to the species and breed of animal and the kind of tissue submitted to their influence. As might be expected from this lack of specificity, it has been found that some carcinogens of wholly unrelated sorts very frequently call forth tumors of identical kind, and that furthermore one of them may substitute for, or reinforce the action of another in so doing (table 2).

These facts fall in with the evidence already cited as showing that the generality of carcinogens do not actuate tumors but start off a process with which they have no further essential relation. And that this is the true state of affairs is made still clearer by the effects of such agents when acting on animals of different species, or individuals of a single species but of differing inbred strains. Unlike the viruses—which act only on animals of the sort from which they are procured or on closely related species—many of the carcinogens now in question are broadly effective, calling forth growths in a wide range of creatures from the frog to man. Yet what they call forth does not depend on them for its character but on the species of animal concerned and its breed, and even on the potentialities of the individual. Mice of differing inbred strains, when treated identically with a chemical carcinogen, will in some instances develop mammary tumors and in others lung adenomas, or liver tumors, bone tumors, lymphosarcomas or leukemia, according to the peculiarities of the strain to which each individual belongs (table 3). And the local neoplastic response when the carcinogen is brought into direct contact with a tissue (as for instance when tar is applied to the skin) differs widely from animal to animal of the same breed, the experimenter having no control over where tumors will appear in the exposed region, or when, or how many of them there will be. He does not actually produce neoplasms at will in any of these instances but instead is like a fisher who casts a net for what he may draw in. He can be sure of the outcome only so far as he casts a wide and strong net—employs a powerful carcinogen that is to say, on a large expanse of tissue—and casts the net where he knows there are fish—in other words brings the agent to bear on tissues known to respond to it with tumors. Quite different is

TABLE 3.—*Induced Tumors as the Expression of Natural Liabilities*

Animal	Natural Liability	Carcinogen	Authority
Mouse	Lung adenomas	Tar; benzpyrene; dibenzanthracene	Murphy and Sturm; Lynch; Furth; Andervont
Mouse	Hepatomas	Dibenzanthracene; dibenzcarbazol	Andervont; Smith and associates
Mouse	Leukemia	Benzpyrene	Furth
	Ovarian tumors; lymphoid tumors and myelosis; lymphosarcoma	Roentgen ray	Furth
Mouse	Mammary carcinoma	Estrogen	Lacassagne (and others)
Mouse	Osteomas	Estrogen	Pybus
Mouse	Lymphoid tumors; myelosis; lymphosarcoma	Estrogen	Gardner
Rabbit	Uterine tumors	Dibenzanthracene	Kennaway and Kennaway

20. Personal observation.
21. Andervont, H. B.; Grady, H. G., and Edwards, J. E.: Induction of Hepatic Lesions, Hepatomas, Pulmonary Tumors and Hemangioendotheliomas in Mice with *o*-Aminoazotoluene, J. Nat. Cancer Inst. **3**: 131 (Oct.) 1942.

the state of affairs with the viruses. The outcome with them does not depend on the potentialities of the tissues acted on: they bring along their own potentialities and selectiveness of action, with the result that they not only engender tumors at each spot where they are brought into contact with susceptible cells but determine the kinds that arise.

Since the generality of the carcinogens elicit neoplastic activities in which they take no further part, it is scarcely surprising to find that their effect is disproportionate to the dose, tumors arising only when this is within a certain optimal range. The sarcomas appearing in response to an injection of benzpyrene into the connective tissue usually originate at some distance from where it exists in greatest concentration; and a strong solution of methylcholanthrene, instead of producing tumors on the area of skin painted with it, may do so only around the edge. The viruses, in contrast, cause neoplastic changes wherever they attain to cells of the right sort, and the number of the latter infected and hence involved in tumor formation varies directly with the size of the inoculum.

In table 4 the relation of the viruses to the growths they engender is compared point for point with that of the other known carcinogens. It will be seen that these relations are fundamentally different. The generality of the carcinogens bring about tissue conditions out of which tumors may or may not arise for reasons still undetermined. They may fitly be called provocative carcinogens. The viruses on the other hand both initiate tumors and determine their character and behavior. They are actuating carcinogens. This distinction deserves to be stressed because the viruses are often supposed to function in the same way as other carcinogens and hence are dismissed from attention as mere freakish members of a large, heterogeneous, yet essentially single, class of tumor-producing agents.

Certain instances there are in which viruses may function as provocative carcinogens instead of serving as the actuating causes of tumors. A papillomatous growth of man, condyloma acuminatum, is due to a virus,[22] and when pent under a phimotic foreskin and aided by inflammation and maceration it sometimes burrows into the tissues, perforating the foreskin and even penetrating to the urethra, with result in fistulas. In these days of effective treatment such happenings are rare, but they were carefully described and documented by many competent observers in the recent past.[23] Microscopic studies of the aggressive condylomas have shown that they invade and destroy normal structures as if they were malignant. Sometimes they cease these activities and revert to the ordinary state after circumcision is done, showing that they were merely stimulated, but in other cases they continue to invade and prove themselves to be truly cancerous by metastasizing. The cancers, which are squamous cell carcinomas, derive from the virus-infected papilloma cells by changes involving such slight morphologic alterations that surgical pathologists, examining biopsy specimens, have time and again reported the growths to be invasive condylomas, learning their mistake only with the appearance of secondary nodules in the regional glands.

As yet nobody knows how far ordinary condylomas resemble true tumors, much less what happens when cancers derive from them. They are obviously infectious in origin, as the typical tumors are not, and furthermore they can seldom maintain themselves unless aided by local conditions such as are provided by bacterial or syphilitic infection, with maceration. It may be that the virus responsible for them undergoes a variant change now and then, becoming a cancer-producing virus; or possibly it works on the cells infected with it like an ordinary provocative carcinogen, with the result that they become malignant, owing to an alteration of some sort unknown; or perhaps the attendant inflammation and maceration act in this way. There are large practical obstacles to settling the question.

TABLE 4.—*Relationship of the Carcinogenic Agents to Tumors*

The Neoplastic Viruses	The Generality of the Carcinogens
have similar general attributes; are procured only from tumors	are of many diverse kinds, are mostly extraneous in origin
act directly, making cells become tumor cells	act indirectly, by provoking chronic, nonneoplastic tissue disturbance
increase as the tumors grow, and are often recoverable from them	disappear as the tumors grow
are narrowly specific as concerns animals acted on and tumors produced	are largely nonspecific as concerns animals acted on and tumors evoked
furnish the potentialities for tumor formation	are effective only if tumor potentialities are already present
themselves determine the kinds of growth arising	evoke growths representative of preexisting potentialities
have effects proportionate to size of the inoculum	have effects disproportionate to the amount employed
They cause and actuate tumors	They provoke neoplastic change

A nearly similar sequence of events, presenting the same possibilities, can be observed when virus-induced rabbit papillomas become cancerous; and it has the advantage for study that the growths can readily be experimented with. They have the immediate traits of true tumors, as already stated, and the carcinomas originating from them derive directly from the papilloma cells, elements easily discriminated from ordinary hyperplastic epidermis and owing their distinctive aspect to the action of the virus. After becoming malignant, the cells continue to exhibit some of the histologic features indicative of the influence of the latter, until, as anaplasia ensues, they lose the power to develop them. Often this does not happen, the growths remaining malignant papillomas, even in metastases, and their cells showing peculiarities attributable to the virus until the animal dies. Furthermore, rabbits to which the cancers are successfully transplanted become strongly immune to the virus as the growths enlarge, showing that either it or some closely related antigen is present in the neoplastic tissue and increases in amount.[24] Inoculation of the skin of the cancerous animals now fails to result in papillomas, and their blood is no longer harmless to the virus when mixed therewith but neutralizes it rapidly and specifically. The antigen responsible for this acquired immunity was still abundant in the cancer even after it had been propagated in a succession of rabbits previously hyperimmunized to the papilloma virus,[25]

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23. Frei, W.: Ueber "carcinomähnliche" spitze Condylome am Penis, Arch. Dermat. u. Syph. **160:** 109, 1930. Buschke, A., and Löwenstein, L.: Beziehungen der spitzen Kondylome zu den Carcinomen des Penis, Arch. Dermat. u. Syph. **163:** 30 (March) 1931. Buschke, A.: Spitze Kondylome am Penis: Tumorartiges Wachstum: Carcinom?, Zentralbl. f. Haut- u. Geschlechtskr. **10:** 11 (Nov. 20) 1923-1924.

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although a similar procedure rids other tumors of the extraneous viruses which sometimes gain access to them and ride along as passengers.[26]

All this speaks for a continued participation of the papilloma virus, or some near relative of it, in the activities of the cancer, and this interpretation of the findings gains further support from what happens when tar tumors are experimentally infected with the virus.[27] Most of the epidermal growths which appear on rabbit skin in response to tarring are benign papillomas, and they generally disappear after the applications are left off, if nothing further is done to them; but if the papilloma virus is injected into the blood stream of the host it frequently localizes in them and entirely changes the course of events. Some take on the character of virus papillomas, while others alter straightway to squamous cell carcinomas, and these may show the same histologic stigmas as the cancers of similar sort that derive from papillomas directly induced with the virus. Tar cancers already present are often spurred to sudden, great malignancy by the virus, and some of them show the alterations in morphology just mentioned as indicative of its influence. This disclosure that the virus can profoundly affect epidermal tumors of other origin makes the supposition well nigh untenable that it ceases to have any share in proceedings when the growths which it has itself caused become malignant. As bearing on the possibility that it undergoes variation to become a cancer-producing virus, the fact seems significant that the malignant change, though rare in cottontail rabbits, takes place with notable frequency in species to which the virus is foreign—swamp hares, jack rabbits, snowshoe hares and domestic rabbits especially—in all of which it readily produces papillomas on inoculation; for viruses are most likely to vary when propagated in hosts strange to them, as is well known. No one of many efforts, however, to induce variation of the papilloma virus by submitting it to the influence of methylcholanthrene or roentgen rays, in vitro or in vivo, has thus far produced any qualitative alteration in its effects.

There would appear to be three possible ways to account for the observed phenomena when the papillomas become cancerous: (1) provocative carcinogenesis of the ordinary kind, the virus, or local conditions within the papillomas, acting on the infected cells in such wise that they change to cancer cells. On this supposition the cells swap horses while crossing the stream and emerge on its farther side as malignant, having wholly relinquished one neoplastic motivation for another; (2) provocative carcinogenesis, but with the virus persisting and influencing the cancers; and (3) variation of the virus, with result that it expresses itself in somewhat different terms, making the papilloma cells, which are already vigorously neoplastic, be cancer cells.

An obvious step toward learning the real state of affairs would be to get a virus of some sort from the cancers; but all attempts at this have failed. For a while the failure seemed wholly attributable to the presence in the malignant tissue of antibodies extravasated from the blood, since they often accumulate in sufficient amount to render extracts of this tissue neutralizing for the papilloma virus when mixed therewith. But recently a cancer derived from a virus papilloma has come to grow so fast, as a result of propagation in one favorable rabbit after another, that it furnishes considerable masses of tissue within a few days of implantation, before there has been time for the new host to form antibodies; and extracts of the tissue thus provided fail to yield virus, even when inoculated into skin previously rendered hyperplastic, a procedure which has disclosed the presence of the papilloma virus in many extracts that had seemed devoid of it when tested by ordinary methods. Nor has inoculation of the cancer extracts into epidermis behaving as if carcinomatous in response to scharlach R given any better result. If a variant of the papilloma virus is responsible for the cancers, either it must require conditions of a peculiar sort for its transmission, or else it has undergone such modification as to be incapable of infecting new cells, has become a dead-end virus, in short.

When the tumors elicited by the provocative carcinogens are scrutinized carefully, much that might be taken to imply a virus cause for them can be found. Such tumors can be easily produced in chickens by the injection into the connective tissue of tar, benzpyrene or methylcholanthrene; and in all their visible manifestations they are wholly like the various growths of fowls that are produced by viruses. No agents of the sort have been recovered from them, but this does not mean that such agents are absent. Indeed, as they enlarge the blood of the hosts comes to contain in many instances antibodies which will specifically neutralize one or another of the known chicken tumor viruses, as if this virus or some nearly related agent were contained in the neoplastic tissue.[28] The papillomas induced by tarring rabbit skin—indisputable neoplasms from which no cause has yet been got—resemble virus papillomas at all essential points[29] and like them may become cancerous secondarily, undergoing similar histologic changes then, with result in squamous cell carcinomas of the same sort. It is as if they were due to an agent somewhat less pathogenic but generally similar to the papilloma virus—which cannot be their cause, since the host animals fail to develop the specific virus-neutralizing antibody directed against it. Recently the tissue of the Brown-Pearce rabbit carcinoma, a transplantable squamous cell cancer long studied as a neoplasm of classic sort, has been found to contain an antigen which has much the same physical attributes as the papilloma virus, though distinct therefrom.[30] Like the agent present in the cancers derived from virus papillomas, this antigen induces the formation of an antibody peculiar to itself. Extracts of the neoplastic tissue fail, however, to produce tumors.

These findings indicate that the state of affairs encountered in the cancers derived from virus papillomas may be no unique instance but a representative

26. Living cells protect viruses with which they have become infected, and hence the capacity of some of the latter to continue to do harm after the host has developed antibodies against them, and to persist for long periods. The success obtained in ridding tumors of passenger viruses by hyperimmunizing the host argues a less intimate association with the cell than exists under the ordinary circumstances of infection.

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29. Rous, Peyton, and Kidd, J. G.: A Comparison of Virus-Induced Rabbit Tumors with the Tumors of Unknown Cause Elicited by Tarring, J. Exper. Med. **69**: 399 (March) 1939.

30. Kidd, J. G.: A Distinctive Substance Associated with the Brown-Pearce Rabbit Carcinoma: I. Presence and Specificity of the Substance as Determined by Serum Reactions; II. Properties of the Substance: Discussion, J. Exper. Med. **71**: 335, 351 (March) 1940.

case. And there are other facts which should encourage persistent efforts to demonstrate viruses in neoplastic materials which have thus far yielded only negative results. Chicken tumors which have yielded viruses regularly for a long while may cease for considerable periods to yield any and then as unaccountably do so again.[31] A transplantable fibrosarcoma of the fowl, from which only inert extracts could be got during ten years of propagation, has lately been proved due to a virus by utilizing differential centrifugation to remove a neutralizing antibody from the extracts prior to inoculation.[32] Many rabbit papillomas induced with virus, yet yielding extracts that proved innocuous on test—growths in which it was supposed to exist in "masked," nonrecoverable form—have been shown to contain it in pathogenic state by introducing the extracts into skin rendered hypersusceptible to infection by previous preparation. Yet with all said one cannot attribute the general inability to get viruses from most tumors either to neutralizing antibodies or to technical shortcomings. There must be some deeper reason why this has not been possible.

On turning to consider again what the provocative carcinogens do, one finds uncertainties which are astonishing in view of the prolonged, intensive work on this theme. Though the early pathologists realized that most cancers arise on the basis of chronic disturbance, no one has yet been able to determine what the local conditions are which bring on neoplastic change; tissue disorders which seem identical histologically are followed in some cases by tumors, in others by none. It is plain that discovery must wait on methods whereby subtle cell changes can be brought to light. According to some investigators the chemical carcinogens, when painted on the skin, act directly on the epidermis, which after a while responds with tumors, whereas others hold that this response is secondary to a pathologic condition induced in the corium. Before growths arise epidermal hyperplasia usually takes place throughout the area affected by the carcinogens, but this is not always true; and a good case has been made for the hypothesis that these agents act by bringing about conditions adverse to the cells,[33] with the result that they undergo conversion into tumor cells, presumably by mutant change. Whatever may be thought of this latter assumption—and the character of the recognized somatic mutations speaks wholly against it[2]—many carcinogens are unquestionably injurious when applied in quantity. The effects of one of the most potent, benzpyrene, have been likened to those of an etching paste,[34] and it has even been used as such in Germany to destroy cancers of the face—though with grave danger of bringing on more cancers later, as need scarcely be pointed out. So pronounced is its influence to hamper tumor growth, and that of some other carcinogenic hydrocarbons, at least under certain conditions, that an active search has been begun for related substances which might be used against human cancer without risk of inducing additional tumors.[35]

The accumulated observations of many workers have lately made plain that the provocative carcinogens in many instances elicit tumors of a sort that the animal is more or less likely to have spontaneously. Thus, for example, benzpyrene, applied by a single route, may call forth mammary cancers, or liver or lung tumors, or lymphomas or bone tumors, or some other type of neoplasm, according as the individual or the breed tends to have such growths naturally (table 3); and the injection of estrogens brings on mammary tumors early and regularly in mice of strains which are prone to have them anyway and greatly increases the percentage incidence of such growths in breeds with lesser liabilities. How far this principle extends is still uncertain. Carcinogens often call forth growths which are rarely seen spontaneously in the kind of animal under test, but this may be only because the environmental influences playing on the organism have not been such as would evoke them. Skin tumors, for example, seldom arise under the natural conditions of mouse life, although they can be readily elicited by the application of the polycyclic hydrocarbons; but if mice are so placed that they cannot shield themselves from ultraviolet light of the wavelengths found in sunshine, skin tumors develop. And Spanish sunshine will actually call forth such tumors in rats, which almost never have them spontaneously. So well recognized now is the ability of the provocative carcinogens to bring lurking liabilities to consummation that when they produce a tumor of unusual sort under experimental conditions the first task of the investigator is to look into the provenance of the animal host with a view to learning whether its forebears, or others of its breed, may not have developed growths of precisely similar kind spontaneously. All this can only mean that the provocative carcinogens now utilized in the laboratory act through, or on, the same mechanism as do the influences responsible for bringing on the tumors that arise under natural circumstances.

The known tumor-producing viruses do not depend on the intervention of the provocative carcinogens for their effectiveness, though possibly this may have been essential when they first caused growths. Mere trauma of the susceptible tissue with which they are brought into contact will suffice to ensure infection with them and its consequence, neoplastic proliferation. Yet nothing is more certain about the origin of most spontaneous tumors than that a disturbance such as the provocative carcinogens produce is an essential prerequisite to their occurrence. This being so, one must conclude that viruses requiring such slight tissue preparation as those now in hand cannot be the cause of tumors generally. And there are other obstacles to the virus theory. Each of the known neoplastic viruses is notably limited in scope, causing tumors in only a single species or in a few nearly related ones, as already mentioned, and with rare exceptions[36] each gives rise to growths of but a single sort, subject at most to minor modifications. Attempts to induce alteration of the viruses, with result in a variety of growths, have been fruitless save in an instance[37] in which the changes obtained in tumor type were too slight to lessen in any considerable degree the

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magnitude of the theoretical problem presented. Must one invoke a whole world of viruses to explain the diversity of tumors? And how account on the virus supposition for those growths which, occurring at wide intervals of time or space, have yet identical peculiarities? Certainly the passing on of a pathogenic agent from one individual to another cannot be responsible in their case. And the evidence is all against the direct transmission of an actuating cause for even the commonest of mammalian tumors. It even seems unlikely that the virus causing the sarcoma known as chicken tumor I, an agent so pathogenic as to produce growths within a few days after experimental inoculation, is ever directly transferred under natural conditions. For not only do no new sarcomas arise when normal fowls are crowded with those carrying growths induced with the virus, but the latter undergoes swift inactivation when separated from the sarcoma cells unless special means are taken to preserve it. The fact that the papillomas of wild cottontail rabbits are so frequent in some localities as to suggest an infectious process renders them exceptional among the neoplasms.

The difficulties of supposing that viruses cause the generality of tumors have forced those interested in the concept to make several assumptions.[38] To account for the worldwide distribution of tumors and for the occurrence of growths of peculiar type at widely separate intervals of space or time it has been necessary to suppose that the body carries resident viruses just as it does resident bacteria, indigenous viruses, as they have been termed, which ordinarily are harmless but now and again become so changed in response to intercurrent conditions as to work on the cells with which they are associated, with the result that these become tumor cells. Such viruses might reach young creatures in early life by transfer from parent to offspring, either in utero—as lymphocytic choriomeningitis does in mice,[39] with result in an infection that is often inapparent—or after birth, like the symbiotic bacteria. They would give no sign of their presence in most instances and would in due course be passed on to the young. But if a provocative carcinogen happened to work on the cells with which such a virus was associated, thus altering its milieu, it might undergo variation and, taking a hand in cell affairs for the first time, give rise to a tumor. The new, pathogenic variant would not be transmitted to other animals under natural circumstances, for reasons as yet obscure, but would be a dead-end virus, not concerned in the production of other neoplasms, though the harmless source virus liable to the same or other variations would be passed on.

Recent discoveries have provided an instance in real life which embodies this conception almost point for point. Its history is as follows:

Some years ago geneticists, studying strains of mice with a pronounced tendency to mammary cancer in old females, found by cross breeding with strains almost free from such cancer that the tendency to the disease came from the mother's side.[40] This led to tests in which newborn female mice of "high cancer" strains were suckled by "low cancer" foster mothers. It turned out that in this way the young had been rescued in nearly all instances from mammary cancer, living out their lives free from it; and further work showed they had been prevented from acquiring something which ordinarily comes to the young in the milk of mothers of cancerous strain,[41] the "milk influence" or "mammary tumor inciter," as it has been called. Yet these mothers did not have cancer at the time when they passed on the "influence," nor did the young that they themselves suckled develop the disease forthwith but only long after growing up. Even from the tissue of the mammary cancers nothing could be got that would cause tumors directly, though it yielded the "milk influence" on extraction, as did also the ordinary breast tissue for that matter. The young of low cancer strain acquiring this "influence" passed it on in due course to their offspring, and these in turn to theirs, litter after litter and generation after generation, plain evidence that it underwent increase within the individual body. It not only failed to cause cancer on direct inoculation but it was ineffective unless the mammary glands developed, and the action of the estrogenic hormones was necessary to this. The occurrence of the tumors could be greatly hastened and their incidence increased by administering the hormones in excess. The powers of the estrogens in such respect, as provocative carcinogens, had been noted some years before the "milk influence" was discovered.[42]

Chemical and physical studies of the "influence" have shown it to have a large molecular weight and to be in all probability a nucleoprotein. It passes through bacteria-tight filters, resists drying and has other physical traits such as viruses exhibit. Presumably it enters the blood from the highly permeable gut of the suckling and, reaching the mammary tissue, finds lodgment there. When it is fed experimentally to mice having but a slight natural liability to mammary cancer the incidence of the disease may be increased somewhat, but animals of some breeds have shown themselves to be by inheritance unfavorable as hosts for it. Not only must the local state of the tissues (as determined by the estrogenic hormones) be right if it is to give rise to cancer but the individual animal must be of susceptible sort. The conditioning is not unlike that which obtains with many infective agents.

It will be seen that all this corresponds closely with what would have to be true of viruses if they were the actuating causes of tumors generally. As already stated, they would have to be widely distributed and pass from one animal to another, presumably early in life, to reside in the tissue and cause no tumors save on special occasion. That is what the "milk influence" does. But if a provocative agent, a carcinogen, so called, happened to work on the cells with which an indigenous virus was associated, then, according to supposition, it might become pathogenic and undergo alteration to a tumor-producing virus. Again the facts about the "milk influence" accord with theory. For not only has it been found that the estrogens, when provided in excess, enhance the natural liabilities to "milk influence"

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41. Bittner, J. J.: Some Possible Effects of Nursing on the Mammary Gland Tumor Incidence in Mice (Preliminary Report), Science **84**: 162 (Aug. 14) 1936; The Influence of Foster Nursing on Experimental Breast Cancer, Tr. College Physicians Philadelphia **9**: 129 (Dec.) 1941.

42. Lacassagne, A.: Apparition de cancers de la mamelle chez la souris mâle, soumise à des injections de folliculine, Compt. rend. Acad. d. sc. **195**: 630 (Oct. 10) 1932; Hormonal Pathogenesis of Adenocarcinoma of the Breast, Am. J. Cancer **27**: 217 (June) 1936.

tumors [43] by producing tissue disorder, as is the way with the provocative carcinogens, but one of the potent carcinogenic hydrocarbons, methylcholanthrene, a substance devoid of estrogenic effect, makes them appear very soon and in great number, when it is applied to mice of a strain in which the "milk influence" exists.[44] The failure to get viruses from some tumors in which there is good reason to believe them present has led to the assumption that they are dead-end viruses, incapable of further transmission, and that only the harmless virus from which they derive is passed on. The harmless "milk influence" is passed on, yet from the mammary cancers due to its presence in the tissues nothing that will produce such growths has thus far been recovered.

The breast tissue of animals acquiring the "milk influence" differs from the ordinary as time goes on, scattered adenomatous nodules forming, from one or more of which carcinomas take origin.[45] These latter are the outcome of a two stage process, of a primary, neoplastic change which results in benign growth, and a superimposed, second one which finds expression in malignancy. So too with many other cancers, for example the carcinomas arising from the cutaneous papillomas of unknown cause which appear in response to tar or other carcinogenic hydrocarbons, and those originating from virus-induced papillomas. Once the benign neoplastic change has taken place which results in tar papillomas, malignant tumors may develop secondarily without further tarring, yet this increases pronouncedly the likelihood of cancers and hastens their appearance, while, as already mentioned, methlycholanthrene has similar effects in the case of "milk influence" carcinomas. All this being so, it has seemed worth while to inquire whether the occurrence of malignant change in benign tumors of virus origin, the rabbit papillomas so often mentioned, may not be furthered by the application of provocative carcinogens. This has turned out to be the case.[46] Both tar and methylcholanthrene are notably effective, causing multiple squamous cell carcinomas to arise from virus papillomas with unprecedented rapidity. Ulcerating, metastasizing cancers have appeared in response to methylcholanthrene as early as seventy-one days after virus inoculation, that is to say after sixty-four days of papillomatous growth. Control tests have shown that no ordinary stimulants of cell proliferation bring on the malignant change so soon or with anything like the same frequency.

Whatever the character of the "milk influence," its discovery suggests an explanation for the differing neoplastic liabilities of inbred animals. It has been difficult to understand why a provocative carcinogen should call forth mammary tumors in mice of one strain and lung or liver tumors, or lymphosarcomas, or bone tumors, respectively, in others, and why individuals of identical strain and so alike genetically that the transplantation of normal tissues readily succeeds in them should in some instances develop tumors infrequently and late in response to a carcinogen, while others acquire many growths soon. No such divergences in pathologic response were to have been expected of cells which under normal circumstances perform identical functions and are wholly alike in aspect. But if neoplastic potentialities come to the cells from without, instead of being inherent, all at once becomes clear.

The mammary cancers due to the "milk influence" exhibit considerable variety, but as yet it is not certain how far agents of the sort are responsible for tumors in general. The liability to leukemia exhibited by some strains of mice is transferred by way of the milk, but the tendency to lung and liver tumors seems not to be passed on thus.[47] Recent indications that the influence responsible for mammary cancer may in some part reach the young during uterine life [48] open a vista of possibilities in relation to other tumors.

Here this discussion of the nearer causes of cancer must come to a close. Those carcinogens which merely provoke the disease are crucial to it nevertheless, since without them it would not occur. Many are so powerful, the roentgen rays and certain synthetic hydrocarbons for example, that they bring tumors into being which under ordinary circumstances would never occur. They crash the gates of ordinary insusceptibility. Not a few agents to which man unwittingly exposes himself under the circumstances of ordinary life are scarcely less effective. A list of the human tumors which have been traced to the action of provocative carcinogens is in no small degree a sociological document, reflecting as it does the ways of life, vocations, avocations, habits and environmental stresses of peoples and individuals. The occurrence of betel nut cancer in Siam, of kangri cancer in Kashmir, of mule spinners' cancer in England and of osteosarcoma due to radium emanation in the United States demonstrates as clearly as the experimental findings in mice that every animal body possesses a myriad of potentialities for tumor formation and that only by good fortune do most human beings slip through life without the realization of a single one of them.

More and more with each recent year investigators have come to realize that the human tumors which seem spontaneous, whose method of origin is still obscure, must actually be brought on by provocative carcinogens of one sort or another. Only lately they have perceived that hormones, when functioning in excess, may render tissues so abnormal as to start tumors off, and now they are asking whether disordered metabolic processes may not lead to the manufacture of endogenous carcinogens. From all sides evidence is coming in to justify the axiom that every spontaneous tumor is an induced tumor. It is an axiom which should spur clinician and laboratory worker alike to be forehanded with cancer.

The episodic discovery that viruses are the certain cause of some growths and probably are responsible for more seems extraneous and discordant when first considered in relation to the ordered progress of thought and endeavor which has revealed, little by little, the decisive share of the provocative carcinogens in the origin of tumors. But in reality it fits into the pattern of things. For workers at the cancer problem have begun to see that they must look beyond the provocative carcinogens for the actuating causes of tumors, the unknowns which make these what they are.

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48. Fekete, E., and Little, C. C.: Observations on the Mammary Tumor Incidence of Mice Born from Transferred Ova, Cancer Research **2**: 525 (Aug.) 1942.

CONTINUOUS DRIP CAUDAL ANESTHESIA IN OBSTETRICS

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Since September 1942, when Edwards and Hingson [1] published the first report on continuous caudal anesthesia in obstetrics, there has been great optimism in both medical and lay literature, hailing it the ideal analgesic and anesthetic for labor and delivery. The method of Edwards and Hingson has been tried successfully by many of the larger obstetric clinics, and their excellent results have been duplicated. By this time almost 1,000 cases have been reported without a maternal anesthetic death.

Despite this, many medical communities are still loath to try the method. In Baltimore, for example, the anesthetic is not yet in general obstetric use, chiefly because of previous tragic experiences with single (not continuous) caudal anesthesia. There were three maternal deaths in a series of a few hundred cases. In each of these the death was attributed to an accidental insertion of the needle through the dura and subsequent injection of a lethal anesthetic dose into

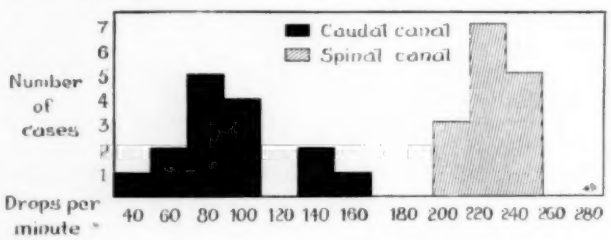

Fig. 1.—Rate of flow (drops per minute) into the caudal and spinal canals of the same patients immediately after administration of saline solution was started.

the subarachnoid space. These fatalities occurred in spite of the strict observance of all ordinary precautions. Even though these deaths occurred with the single injection of caudal anesthesia, it is argued that the same thing may occur with the continuous type.

Edwards and Hingson [2] in one of their latest papers state that they pierced a low lying dura three times in one thousand injections but were fortunate enough to obtain cerebrospinal fluid on withdrawing the plunger of the syringe and were thus forewarned. However, in less fortunate cases the needle may actually enter the subarachnoid space and yet spinal fluid may not be obtained. This occurred in the three Baltimore fatalities under single caudal anesthesia. It may be that the meninges were sucked up against the tip of the needle, thus preventing the withdrawal of fluid. In such cases a fatal spinal injection intended for the caudal space could be administered. A tragedy of this variety nearly occurred in this hospital. The case has been reported in detail in a previous article.[3] This incident almost caused us to discontinue the use of continuous caudal anesthesia, but the knowledge of its many advantages that we had noted in the 38 previous cases finally persuaded us to continue after instituting the safeguards detailed here.

The method we had used originally was not that described by Edwards and Hingson. Repeated large syringe-injected doses of the anesthetic agent seemed full of potential dangers to us, and so, to get away from this, we devised a technic which employed a continuous drip of procaine hydrochloride by gravity. The details were published in the previous paper.[3]

This method proved very satisfactory, and we believe that it gives a more even and regulated anesthesia and that it is safer than the syringe method, since it avoids a large, rapidly injected dose at any one time. In the present series we have retained the essential principle of the earlier series (the continuous gravity drip) but have increased the safety of the technic. A series of experiments was conducted which led to the development of a test to detect when dural penetration has occurred. It appears far more accurate than the uncertain test of attempting to aspirate spinal fluid with a syringe.

METHOD

Using the drip method, we determined in the same patient the number of drops per minute that entered the spinal canal compared to the number that entered the caudal canal under exactly the same conditions. We had wondered whether the positive pressure in the spinal canal would offer sufficient resistance to create a slower rate of flow than the negative pressure of the caudal space.

Two identical needles (17 gage continuous spinal needles) were introduced into 15 patients who were in labor at term—one needle into the spinal canal in the fourth lumbar interspace and the other into the caudal canal. Each needle was attached by small bore noncompressible rubber tubing in a 250 cc. graduated cylinder containing isotonic solution of sodium chloride. The cylinders were suspended at a height of 7½ feet from the floor and 4 feet above the mattress. The stopcocks were then released and the number of drops per minute that entered the spinal and caudal canals were counted.

We obtained a decided difference in the rate of flow into the caudal space and that into the spinal canal, although the results were exactly contrary to those anticipated, for the rate of flow into the caudal space was slower than that into the spinal canal.

In the spinal canal, the rate of flow was so fast that it usually could not be counted accurately. It averaged about 230 drops per minute and was never less than 200 (fig. 1).

In the caudal space we got a much wider range, but it was uniformly slower than in the spinal canal. The majority fell into the 80 to 110 drops per minute group (fig. 1). In those cases taking more than 100 drops per minute there often would be a decided fall in rate after three minutes (fig. 2), whereas there was no change after three minutes in the spinal canal (fig. 2).

Under identical conditions, saline solution will enter the spinal canal two to three times as rapidly as it will

From the Department of Obstetrics, Sinai Hospital.
Dr. Alan Guttmacher, chief of obstetrics, gave encouragement and guidance in the preparation of this paper.
The Abbott Laboratories supplied the procaine hydrochloride and saline solutions and the apparatus used in this series.

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2. Hingson, R. A., and Edwards, W. B.: Continuous Caudal Anesthesia in Obstetrics, J. A. M. A. **121**: 225 (Jan. 23) 1943; Comprehensive Review of Continuous Caudal Analgesia for Anesthetists, Anesthesiology **4**: 181 (March) 1943.

3. Block, Nathan, and Rochberg, Samuel: Continuous Caudal Anesthesia in Obstetrics, Am. J. Obst. & Gynec. **45**: 645 (April) 1943.

the caudal canal. We have utilized this fact in creating a method to differentiate an intradural injection from an extradural one, a "clinical safety valve" as it were.

In addition to the differences in the rate of flow into the caudal and spinal canals, we hoped to develop yet another test based on an induced increase in cerebrospinal pressure. With this in view we performed the Queckenstedt test while the saline solution was dripping freely. Pressure on the jugular veins produced a well defined and equal diminution in the rate of saline flow into both the caudal and the spinal canal and therefore the procedure proved valueless as a differential test. Similar results were obtained when the patient was told to strain or to cough.

CLINICAL TECHNIC

This difference in rates of flow when the needle is inserted in the caudal and in the spinal canal has been applied to the clinical use of caudal anesthesia.

After having been given an enema and made to void, the patient is put in the knee-chest position. The area of injection is painted with Scott's solution (2 per cent mercurochrome in alcohol, acetone and water) and draped.

1. The sacral hiatus is palpated and sufficient 1 per cent procaine hydrochloride injected to raise a skin wheal.

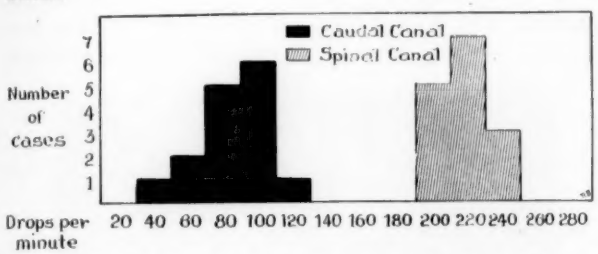

Fig. 2.—Rate of flow (drops per minute) after saline solution had dripped for three minutes into the caudal and spinal canals of the same patients.

2. A 17 gage continuous spinal needle is introduced through the wheal and then guided into the sacral canal for about a distance of 2½ inches.

3. The patient is turned on her side, a syringe is attached to the needle and an attempt is made to aspirate spinal fluid. The anesthetic is discontinued if spinal fluid is obtained. If blood is obtained, the needle is rotated until nothing can be aspirated and the method continued.

4. If no fluid is obtained, the flasks and tubing as illustrated (fig. 3) are connected to the hub of the needle. The equipment consists of two graduated 250 cc. flasks, one containing isotonic solution of sodium chloride (*A*) and a second containing 1 per cent procaine hydrochloride (*B*). These are connected by a Y tube to a long soft rubber tubing, which in turn is connected to the small bore hard rubber tubing by a glass adapter.

Before the small bore tubing is attached to the needle it is necessary that all air be evacuated from the apparatus. This is easily accomplished by allowing some of the saline solution to run through the system.

5. The flasks are then suspended from the arms of a pole 7½ feet above the floor.

6. The clamp leading from the saline reservoir is then released and the solution is allowed to flow in at an unrestricted rate. The number of drops per minute is counted. In all cases in which the rate of flow exceeds 100 drops per minute a second count is taken after three minutes. This count is invariably lower than the original. We have taken the arbitrary unit of 150 drops per minute as the upper margin for a safe caudal rate and we feel that the anesthetic should be withheld from all patients who exceed this rate, though all ordinary observations indicate that the needle

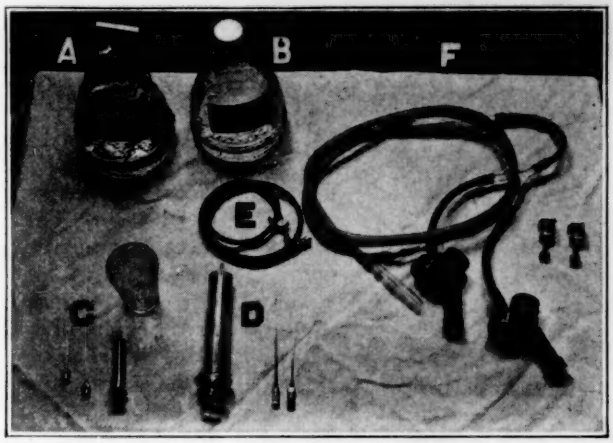

Fig. 3.—Apparatus needed for technic: *A*, 250 cc. flask of isotonic solution of sodium chloride; *B*, 250 cc. flask of procaine hydrochloride 1 per cent; *C*, local infiltration set; *D*, 17 gage continuous spinal needles and 20 cc. syringe for aspirating the spinal fluid; *E*, small bore noncompressible rubber tubing; *F*, rubber connecting tubing with Y tube, rectal drip, dispensing caps and air filters.

is not in the spinal canal. In this manner we allow a margin of safety of from 60 to 90 drops per minute from the spinal rate.

7. If the saline flow corresponds to the caudal rate (less than 150 drops per minute) we assume that the possibility of dural penetration is eliminated. The further possibility of a subcutaneous injection is now determined by making pressure with the palm of the hand over the sacrum proximal to the needle (fig. 4). Pressure will stop a subcutaneous flow, but a caudal flow is unimpeded.

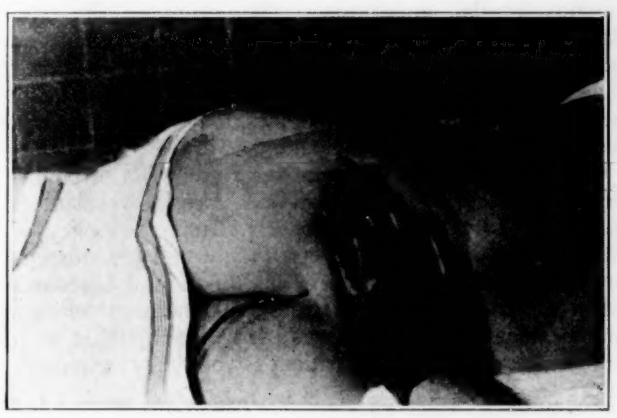

Fig. 4.—Position of the palm. Pressure will stop a subcutaneous flow.

8. If the criteria for caudal injection are satisfied, the saline solution is shut off and the needle is taped down securely in the median raphe. The patient is turned on her back and the procaine reservoir is released (fig. 5).

9. One percent procaine hydrochloride is allowed to drip in at the rate of about 30 drops per minute for twenty minutes.

10. After twenty minutes the rate is slowed to 15 drops per minute. This rate of flow is usually sufficient to maintain even anesthesia. In a few cases a slightly higher rate than 15 drops per minute was found necessary. The level of anesthesia must be carefully watched, and if the cutaneous anesthesia goes above the umbilicus the procaine hydrochloride is temporarily shut off.

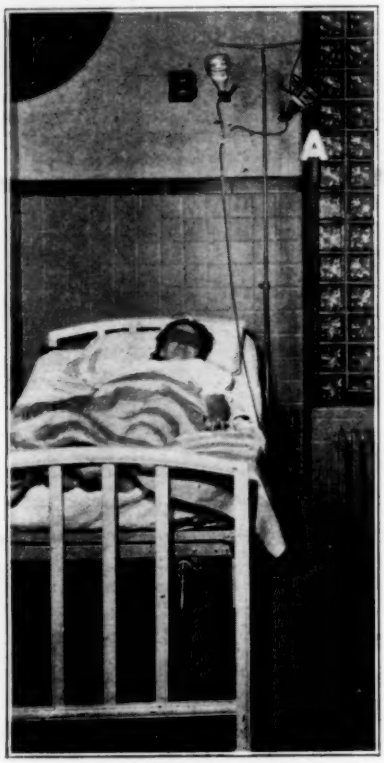

Fig. 5.—Position of patient under the anesthesia. *A*, flask containing isotonic solution of sodium chloride; *B*, flask containing procaine hydrochloride 1 per cent.

RESULTS

We have used the revised method for labor and delivery in 61 cases. These cases, combined with the 39 cases from our previous series, make a total of 100 cases in which continuous drip caudal anesthesia was given in obstetrics. The results were good except in a few instances. The one serious complication, the spinal injection of procaine hydrochloride, occurred before we had instituted the saline test. In the great majority, labor was painless and delivery accomplished without any supplementary anesthesia. A few patients continued to have some discomfort, but even they had considerable relief.

The length of labor is apparently shortened by continuous caudal anesthesia. The average primipara delivered four hours after the caudal anesthesia was begun and the multipara in two hours. It is to be noted that caudal anesthesia was not given as soon as labor began, but, like ordinary analgesia, only after labor was well initiated and when the patient objected to her pains.

Caudal anesthesia does not interfere with a spontaneous delivery. When the time comes, the patient is instructed to bear down properly. It is the policy of this clinic to do a routine episiotomy and low forceps on the primiparous patients, but on several occasions when we desired to demonstrate a spontaneous delivery under caudal anesthesia it was easily accomplished with the cooperation of the patient's voluntary expulsive efforts.

There were four fetal deaths in this series of one hundred deliveries. One fetus was macerated; fetal heart sounds were not present on admission. The second showed congenital absence of the left diaphragm and lung at autopsy. The third lived thirty-six hours, and pneumonia neonatorum was found at autopsy. The fourth was stillborn, and no demonstrable cause of death was found, although two tight loops of cord were present around the neck at delivery. The other 96 babies cried spontaneously, many even before delivery could be completed.

Supplementary anesthesia was given to 7 patients. Three of them did not get sufficient perineal anesthesia, and we electively gave inhalation anesthesia to the other 4 (1 internal podalic version, 1 high midforceps and 2 Kielland forceps with rotation from the transverse). The last 3 cases occurred early in our use of caudal anesthesia, and since that time we have completed delivery in several similar cases without the addition of general anesthesia. The elimination of inhalation anesthesia was very helpful in cases in which labor was complicated by a pulmonary or cardiac condition.

The third stage of labor appeared to be completed with less than average bleeding. There were no instances of extreme hemorrhage, and in most cases the bleeding was minimal. There were 2 cases of retained placenta; 1 required manual removal under general anesthesia.

COMPLICATIONS

We have had about 95 per cent success in inserting the needle into the caudal canal. In a few cases, either because of anatomic variations or because of excessively thick tissues, we have been unable to do so and consequently were forced to resort to some other form of analgesia.

The likelihood of the needle breaking off in the back is becoming less frequent. At first this was not an uncommon occurrence, but as the quality of the needles improved this mishap has become rare. In our last 75 cases only one needle broke and since then new and

Fig. 6.—Needle lost in caudal canal.

better needles have been developed, the use of which is not included in this article. It is a simple matter to remove the needle when the break occurs in the subcutaneous tissue. However, if it is in the caudal canal it is more serious. This happened in 1 of our cases, and despite two hours of exploration by an experienced surgeon the needle was never recovered (fig. 6).

The most serious complication is accidental injection into the subarachnoid space. This occurred in 1 of our cases before the saline test was introduced. This case has previously been reported in detail.[3] The patient went into profound peripheral vascular collapse and probably would have died but for prompt therapy by a competent anesthetist. The possibility of dural penetration must always be anticipated, and one should be prepared beforehand to combat this catastrophe.

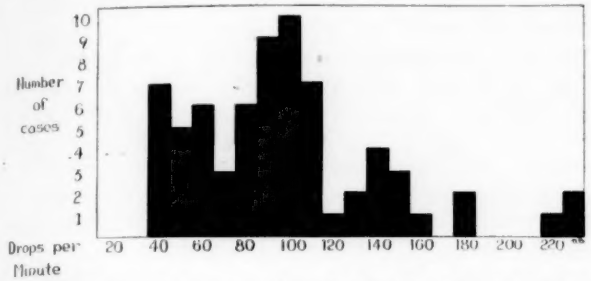

Fig. 7.—Number of drops per minute immediately after administration of saline solution was started in the caudal space (69 cases).

Careful observation of the patient throughout the period of caudal anesthesia is essential. The level of cutaneous anesthesia should be kept at the level of the umbilicus. The level of the anesthesia depends on two factors—the rapidity of administration and the volume of solution used. We have found that when either or both of these factors are ignored the anesthesia may go to so high a level that serious cardiovascular complications may be encountered and an alarming fall in blood pressure and other symptoms of peripheral vascular collapse may occur. If these symptoms appear, ephedrine sulfate should be given immediately and the anesthetic temporarily clamped off. The best treatment for this complication is prophylactic; the anesthesia must be constantly supervised by a competent person and the height of cutaneous anesthesia tested at regular intervals.

Sensitivity to procaine hydrochloride has been a minor complication. A few patients have complained of drowsiness, headache or nausea and an occasional patient has vomited, but the majority have not exhibited any untoward effects.

Postpartum complications were negligible. There were no cases of epidural abscess. Low back pain was a frequent complaint until a routine postpartum prophylactic injection of morphine (⅙ grain [0.01 Gm.]) every four hours for three doses was given. This has virtually eliminated the difficulty. We kept some patients in the lateral position throughout labor, as advocated by Edwards and Hingson, while using the continuous drip caudal, but it proved less satisfactory than with the patient flat on her back. Lying on one side tended to produce unilateral anesthesia on the dependent side.

APPLICATION TO OBSTETRIC SURGERY

The continuous drip technic was also applied to obstetric surgical procedures. Five cesarean sections, two abdominal hysterotomies, two Pomeroy sterilizations with appendectomy and two curettages were done.

In order to apply the method to abdominal operations, a few revisions in technic were required. The anesthesia should be started forty-five minutes prior to the incision, and 1 per cent procaine hydrochloride is allowed to drip in at the rate of 30 drops a minute for thirty minutes. The inflow is then reduced to 20 drops a minute and the solution allowed to run at that rate throughout the operation. No inhalation anesthesia or auxiliary analgesics were needed. The patients experienced no pain and their postoperative conditions were excellent. All the babies delivered by cesarean section cried spontaneously.

There were no serious complications. Two patients who underwent cesarean section had a pronounced fall in blood pressure but responded promptly to ephedrine sulfate ¾ grain (0.05 Gm.). We now are giving ephedrine sulfate routinely in all cases of abdominal surgery preoperatively when continuous caudal anesthesia is to be used.

COMMENT

We have done one hundred deliveries and eleven obstetric surgical procedures under continuous drip caudal anesthesia and the preliminary saline test in the last 69 cases. The differences between the caudal and the spinal rate of inflow were so clearly defined that we did not deem it necessary to continue to subject every woman in labor to the added annoyance of a spinal tap. Therefore after the first 15 cases we no longer took the spinal rate but confined the test to an immediate (fig. 7) and then after three minutes a second count (fig. 8)) of the flow into the caudal canal.

A 150 drop per minute rate of flow after three minutes was used as the upper limit of safety, and for that reason the anesthetic was withheld from 2 patients who had a rate of 210 drops per minute even though we could not aspirate spinal fluid from the needle (fig. 8).

In doing the experimental work we used the fourth lumbar interspace for our spinal taps. In order to prove that the site of the puncture is unimportant we were successful in 2 cases in intentionally piercing the dura through the caudal canal with a 3½ inch needle.

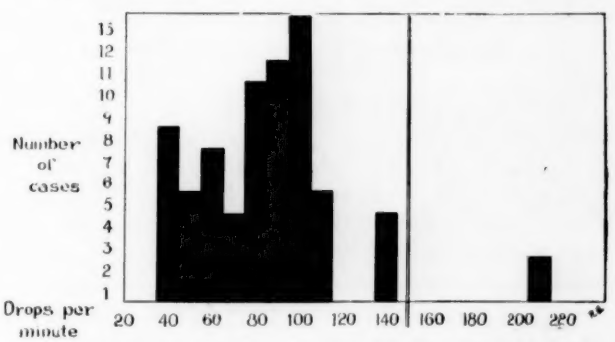

Fig. 8.—Number of drops per minute after saline solution had dripped for three minutes into the caudal space (69 cases).

After obtaining spinal fluid as confirmation, we observed a saline rate of over 210 drops per minute.

The decidedly slower caudal rate probably depends on the fact that the caudal canal anatomically is almost a potential space and therefore offers resistance to fluid introduced by gravity. This is further borne out by the fact that the number of drops per minute that will drip into the caudal canal becomes progressively lessened as the canal is increasingly distended.

One per cent procaine hydrochloride was found to be completely satisfactory. It is less expensive than

metycaine, and no serious toxic effects have been encountered from its use. Since we give the anesthetic continuously we find its shorter lasting period of anesthesia to be advantageous. It was given as long as eighteen hours without complication. The average total dose was 200 cc. The largest dose was 850 cc. Relief from pain begins in ten to fifteen minutes, and complete anesthesia is obtained soon thereafter.

In the previously reported series, caudal anesthesia was begun very early. It was started as soon as it was certain that the patient was in labor. We now believe that it is wiser to withhold the anesthetic until pains are severe enough to make the patient uncomfortable. This is done for three reasons: 1. Labor seems to be more rapid. 2. It reduces the total procaine hydrochloride required. 3. The patient appreciates the anesthesia more because she can compare her comfort before and after its use.

SUMMARY

The continuous drip technic for the administration of caudal anesthesia for labor and delivery which we have presented may be modified also for surgery. It appears safer than the method now in general use, because it represents a truly continuous technic and large doses are thus avoided at any one time.

Criteria have been established to determine whether the needle is extradural or intradural. The spinal canal has been entered inadvertently if (*a*) spinal fluid can be aspirated, (*b*) the immediate flow of saline solution from a continuous drip reservoir exceeds 210 drops per minute and (*c*) there is no appreciable diminution in the rate of flow after three minutes.

The needle is in the subcutaneous tissue if (*a*) pressure proximal to the needle stops the free flow of saline solution, (*b*) a bulge develops over the sacrum where the fluid has extravasated into the tissue.

The needle is in the caudal canal if (*a*) no spinal fluid can be aspirated, (*b*) pressure over the sacrum does not stop the free flow of saline solution and (*c*) saline solution from a continuous drip reservoir flows in at a rate less than 150 drops per minute after three minutes.

Continuous caudal anesthesia has been a very satisfactory technic in our hands. Certain highly dangerous complications are possible and therefore it should be given only in well equipped hospitals by persons experienced in the technic.

Monument Street and Rutland Avenue.

Estimate of Number of Patients Having Gout.—Hench has affirmed that patients with gouty arthritis constitute at least 5 per cent of all patients seen at the Mayo Clinic suffering from the several diseases of the joints. A similar percentage has been observed in other clinics. If this value is valid throughout the United States, there may be at least a third of a million people suffering from gout among 7 million sufferers from chronic rheumatism. It is safe to estimate that only a portion of this number is diagnosed as gout and treated for same. One reason for the discrepancy between probable incidence and clinical recognition is the common failure among physicians of waiting until advanced tophaceous changes in the joints have appeared before suspecting gouty arthritis. Another reason is the lack of unanimity regarding criteria for a diagnosis.—Talbot, John H.: Gout, New York, Oxford University Press, 1943.

PERIPHERAL NEURITIS AS A COMPLICATION OF PERNICIOUS ANEMIA

AND COMBINED SYSTEM DISEASE

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AND
JOHN W. NORCROSS, M.D.
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The literature concerning pernicious anemia and its associated neurologic complications, both clinical and pathologic, is voluminous. We should like to call attention to certain clinical aspects which, although not entirely neglected in previous reports, have not, we feel, been emphasized sufficiently. The specialist is quite familiar with the various aspects of this problem and with the variability of the neurologic complications of pernicious anemia. This brief review is directed primarily, therefore, to the general practitioner who first sees and examines these patients and starts them on a course of treatment.

When one considers the neurologic disorders which may precede,[1] accompany or follow the onset of pernicious anemia, one invariably thinks of subacute combined system disease. There can be little question that sclerosis and degeneration within the posterior and lateral columns of the spinal cord [2] have been the most frequently observed pathologic findings. The most common clinical finding [3] related to the nervous system in patients with pernicious anemia is paresthesia and dysesthesia of the feet and hands, and frequent impairment of vibratory and position sense particularly in the feet. It is generally believed that the clinical findings are to be explained on the basis of the degree and location of the neuropathologic findings. The actual cause of these neuropathologic changes is still a problem, since there are a number of clinical conditions which may give rise to similar findings in the spinal cord. In more recent years, vitamin deficiency has been thought to play a part in producing these changes, both in laboratory animals and in patients, but it would seem in most cases that there is a combination of factors. Although vitamin deficiency may be important, it usually does not operate alone to produce these pathologic changes.

Some writers [4] call attention to the fact that the degree of sclerosis in the posterior and lateral columns of the spinal cord does not always parallel the severity of the clinical symptoms and, conversely, that the patient may have severe subjective changes and yet have little to explain these symptoms on pathologic examination of the spinal cord.

This has led other investigators [5] to suspect that the peripheral nerve may be the source of certain clinical

From the Department of Neuropsychiatry (Dr. Dynes) and the Department of Internal Medicine (Dr. Norcross), the Lahey Clinic.

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symptoms and signs. Early work on this point [6] tended to be inadequate and lacked confirmation. In more recent years neuropathologic investigation [7] has confirmed the presence of peripheral nerve disease in many patients with pernicious anemia who have neurologic complications.

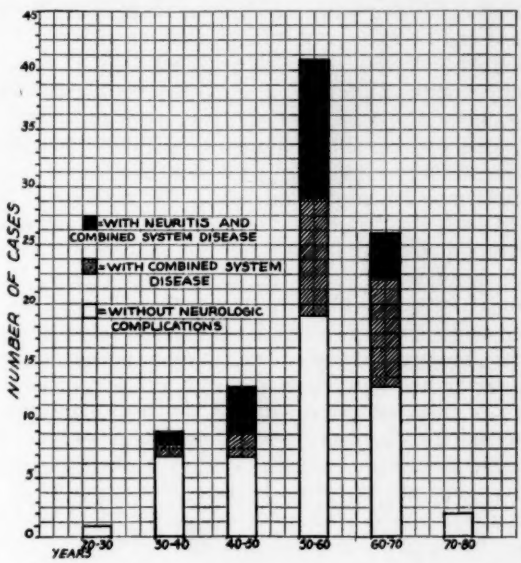
In medical teaching of the pernicious anemia syndrome it is not uncommon to stress spinal cord disease and the accompanying neurologic signs, while either entirely neglecting or at least failing to emphasize the fact that neurologic examination reveals unusually variable signs. This variability tends to make diagnosis more difficult for one who has a limited experience with these disorders. The neurologic signs may not conform with the common conception of what the typical findings should be in cases of pernicious anemia. As a rule, one expects to find increased tendon reflexes in the lower extremities with bilateral extensor response (Babinski), diminution or absence of vibratory sense in the feet and lower legs, impaired position sense of the toes, ataxic gait, positive Romberg's sign and absence of abdominal reflexes. One soon discovers that many patients have absent reflexes at the ankle and perhaps a complete loss of tendon reflexes in the lower extremities. In some patients the paradoxical findings of a positive Babinski sign associated with absent tendon reflexes may be demonstrated. Russell, Batten and Collier [8] in 1900 called attention to this particular combination of signs and suggested that they should make the examiner consider subacute combined system disease. Absent tendon reflexes frequently have been explained on the basis of involvement of the posterior columns of the cord and the interruption of the reflex arc in very much the same manner as in tabes dorsalis. In some cases this explanation may be quite valid, but it does not explain why certain patients with definite clinical evidence of posterior column disease continue to show increased reflexes, though one may concede the pyramidal tracts to be irritated.

There is another explanation which either in whole or in part may account for the absence of reflexes in a patient who otherwise has combined system disease. The latter explanation is concerned with the peripheral nerve and is one which we feel is usually given too little consideration.

Generally the clinical diagnosis of peripheral neuritis is made on the basis of peripheral nerve pain, dysesthesia or paresthesia, tenderness on pressure over the nerve trunks or muscles, usually with evidence of some muscle weakness as the disorder progresses, and a loss or diminution of tendon reflexes starting distally. There is also a tendency to a distal superficial hypesthesia to pain and touch. In severe cases of peripheral neuritis one has little or no difficulty in making a diagnosis. However, if the disorder is one of a milder character or one which has been present sometime in the past, the acute signs and symptoms may have diminished greatly, and one therefore has fewer diagnostic criteria on which to render an opinion.

Some years ago, certain investigators [9] believed that the neurologic complications of pernicious anemia did not respond to liver treatment, while others [10] held a more optimistic point of view. At the present time, all of those who actively are studying the problem find much improvement on adequate parenteral liver treatment. Strauss, Solomon and Fox [11] have particularly emphasized the necessity of adequate treatment, and under such conditions these patients may be greatly improved clinically, both subjectively and objectively, and the disease process arrested. Davison's [12] recent neuropathologic investigation would seem further to confirm this view. The neuritic manifestations tend to respond to treatment before the abnormalities of combined system disease.

Patients suffering from pernicious anemia frequently lose their appetite, lose weight and develop a glossitis or stomatitis. An intercurrent infection may contribute to the development of neuritic symptoms. The relationship of vitamin B deficiency is strongly suggested but has never been unequivocally demonstrated, and, in general, patients do not respond to vitamin therapy alone.



Probable age of onset of symptoms in cases of pernicious anemia.

We have reviewed 92 cases of pernicious anemia, all of which were seen and examined by one or both of us. In a survey of this case material we have used the criteria stated in a previous paragraph in making the diagnosis of peripheral neuritis. Of the 92 patients having definite laboratory, clinical and therapeutic evidence of pernicious anemia 21, or approximately 23 per cent, had unmistakable peripheral neuritis in combination with combined system disease. An additional 22

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12. Davison, Charles: Effect of Liver Therapy on Pathways of Spinal Cord in Subacute Combined Degeneration, Arch. Int. Med. **67:** 473-488 (March) 1941.

patients, or about 24 per cent, had the clinical signs of combined system disease without peripheral neuritis, while the remaining 49 patients, or 53 per cent of the series, showed evidence of pernicious anemia without clearcut neurologic signs.

An attempt was made in the analysis of our cases to discover some factor underlying the development of the neuritis. The age of onset showed no significant difference in the three groups of cases, nor did the average duration of symptoms or the average weight loss throw any light on the problem. However, it was found that about 50 per cent of the neuritic group had definite gastrointestinal symptoms on entry as compared with 21 per cent of the cases not showing neuritic manifestations, as shown in the accompanying table and chart.

Review of Cases

	Neuritic	Nonneuritic
Number of cases	21	71
Sex: Male	6	24
Female	15	47
Average age on entry	56.7 yr. (40-72 yr.)	56.5 yr. (25-70 yr.)
Average duration of symptoms on entry	2.5 yr. (8 mo.-16 yr.)	2.8 yr. (2 mo.-25 yr.)
Average weight loss	16.1 lb.	16.2 lb.
Cases presenting gastrointestinal complaints	11 (52%)	15 (21%)

The treatment of patients with neurologic complications must not be controlled solely by studies of the blood. When the red blood cell count and hemoglobin have reached normal levels and the macrocytosis has entirely disappeared, the neurologic symptoms have sometimes not even started to respond. This is to be expected when one considers the varying level of anemia that may be present when neurologic manifestations become evident. Therefore, in our opinion, the one criterion of adequate treatment is the improvement of these neurologic changes, both subjective and objective. We believe that, if no response occurs, sufficient parenteral liver extract has not been administered. It is thought desirable to eliminate foci of infection and to improve the patient's general health if liver and vitamin therapy are to be successful in all cases.

When the highly concentrated liver extracts were first made available, many including ourselves suspected that the less concentrated extracts would prove more efficacious in treating the neurologic manifestations of pernicious anemia. This has not been the case, as proved by a year's trial with a highly concentrated extract containing 15 U. S. P. units per cubic centimeter. During this time no patient previously controlled on less concentrated extract showed progress of his disease. Each new patient who was given the highly concentrated liver extract (15 U. S. P. units per cubic centimeter) demonstrated the expected degree of therapeutic response. This has also been the experience of others.[13] Because of the higher cost of the more concentrated liver extract, we routinely use the cruder type.

It is our practice to treat patients demonstrating severe neurologic complications with 20 U. S. P. units (3.3 U. S. P. units per cubic centimeter) of liver extract intramuscularly daily for several weeks and then to continue this dose every second day for several months. Thereafter 20 U. S. P. units should be administered at least twice a week until the neurologic manifestations have improved definitely or cleared entirely. The amount of liver extract needed varies considerably with the patient. The speed with which the red blood cell count and hemoglobin attain normal levels and the red cells lose all evidence of macrocytosis is of secondary importance to the continued neurologic improvement. Large doses of a potent vitamin B complex preparation are always given as supplemental therapy.

The response of patients suffering from peripheral neuritis in addition to combined system disease has progressed more rapidly and has been on the whole more complete than has occurred in patients with combined system disease alone. Of our 21 cases demonstrating definite evidence of both neurologic complications, 16 have responded well with pronounced regression of symptoms and unmistakable reversion of signs toward the normal. One case of seven years' duration responded poorly, while the response in 4 cases is unknown; 2 of these are too recent to evaluate, 1 patient is dead, and 1 could not be followed.

SUMMARY

1. In a series of 92 cases of pernicious anemia, 21, or about 23 per cent, demonstrated clearcut evidence of peripheral neuritis and combined system disease.

2. An additional 24 per cent showed combined system disease without peripheral neuritis and 53 per cent pernicious anemia uncomplicated by neurologic signs or symptoms.

13. Strauss, M. B.; Patek, A. J., Jr.; Pohle, F. J.; Fox, H. J., and Burchenal, J. H.: The Treatment of Pernicious Anemia: A Nine Year Study of Maintenance Requirements, with a Note on the Efficacy of Purified Liver Extracts in the Control of Neural Lesions, New England J. Med. **226**: 1013-1015 (June 25) 1942.

PROPHYLACTIC USE OF SULFAGUANIDINE

LIEUT. JAMES CLIFFORD SCOTT (MC), U.S.N.R.

On Oct. 24, 1941 a case of diarrhea with fever developed at the Devereux Gateway School, which is one unit of the schools operated by the Devereux Foundation, Devon, Pa.[1] This unit is operated for the care and training of children from 3 to 8 years of age, all of whom are mentally defective to some extent. On the following day the second child became ill in the same manner, and from then on, in spite of the usual treatment used for the control of diarrhea in childhood, we were faced with a rapidly developing epidemic in the building with all cases running virtually the same course of illness.

Cultures of the stools of all children were made, and the Bryn Mawr Hospital Laboratory[2] isolated from 4 active cases organisms identified as the Sonne type of dysentery bacillus. Details of the symptoms, together with the laboratory findings, gave me full confidence that we were dealing with a perfectly clearcut epidemic of bacillary dysentery.

SYMPTOMS

Since the first diagnosis was made clinically and since the final diagnosis in our cases depended partially on clinical symptoms and signs, I believe that, in order to establish the fact of an epidemic of actual bacillary dysentery, a description of the signs and symptoms is necessary.

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1. Lieutenant Scott is medical director, on leave of absence for the duration of active duty, of the Devereux Foundation, Devon, Pa.

2. Valuable suggestions were given and technical work done by Dr. Max M. Strumia, Bryn Mawr, Pa., and Miss Regina Neher, bacteriologist, Bryn Mawr Hospital clinical laboratory.

All the children described as suffering with the illness presented remarkably similar symptoms and chronology of illness except as they differed with the day on which they were given treatment with sulfaguanidine. Every attack began suddenly with apathy, loss of appetite, fever, hyperperistalsis and, within a period of an hour or more, acute diarrhea with innumerable stools both continent and incontinent. All the children during the acute period of the disease before institution of treatment appeared more ill than the degree of fever (from 100.5 to 104.0 F. rectally) would usually indicate in children of this age. The stools were all liquid and foul and contained leukocytic exudate combined with food particles and gross blood in most cases. Most of the children had some degree of vomiting during the first thirty-six hours. In all cases the usual methods of treatment for diarrhea in children were instituted as soon as symptoms appeared, and as these took effect to relieve the general condition of the child the appearance of toxemia would improve to some extent, but none of the children fully recovered until they received either the therapeutic or the prophylactic dose of sulfaguanidine. However, regardless of the time elapsed between the onset of illness and the institution of the sulfaguanidine therapy, every child without exception showed decided relief of all symptoms in from twelve to twenty-four hours after starting this therapy.

The therapeutic dosage used was designed as closely as possible to conform to the recommendations of Marshall and his associates,[3] namely 10 mg. per kilogram of body weight for the first dose followed by 5 mg. per kilogram every four hours day and night thereafter.

Since the effectiveness of the drug used therapeutically in this disease seems to me to have been firmly established by previous reports of other authors, I feel that no further discussion of results of treatment is here indicated. This paper is principally concerned with the prophylactic use of the drug.

A careful review of the literature at the time of writing has failed to disclose a description of an epidemic of this sort being controlled by the prophylactic use of sulfaguanidine, and since this drug was used prophylactically in this epidemic with what appears to be perfect success, I feel that some details of the epidemic and our results with sulfaguanidine used in this manner should be published, since the disease may be the source of a great deal of morbidity and loss of time, especially in wartime.

The use of the drug therapeutically seems to require little more to be said in its favor except that in reviewing the literature I came across a curious fact which is not specifically mentioned in any of the papers. This concerns the toxicity of sulfaguanidine. In every report of toxic reactions that I was able to find, the drug had been used in conditions in which there was a known break in the continuity of the epithelial wall of the intestinal tract, or in conditions (such as typhoid) in which, although the existence of such a break was not definitely known, such a break would naturally be expected to exist. This fact would seem partially to explain the disagreement between many physicians who have been able to use the drug extensively without a sign of toxic reaction and a number of authors[4] who warn specifically that use of the drug has been dangerous in their experience. I believe that, if given to patients who have no intestinal ulcers or other breaks in the mucosa, sulfaguanidine is the drug of choice in bacillary dysentery.

The work of Marshall and his co-workers[3] in January 1941 has become the classic work on the drug. They described its physical qualities and the first extensive use in animals and man. Their finding that if absorbed (as it is in the rabbit) the drug is very toxic fits in with later findings clinically that when absorbed in man, as it definitely is in the presence of ulceration of the bowel, the drug is dangerously toxic. In other cases the drug compares favorably with sulfadiazine in its absence of toxic reactions. In handling a very large series of cases in an epidemic of bacillary dysentery in the Near East, where only the sickest patients were treated with sulfaguanidine, Fairley and Boyd[5] reported that in 371 of the most severe cases toxic reactions were very mild and consisted only of headache associated with malaise and an occasional transient erythematous rash or a mild papular eruption.

A publication by Bloomfield and Lew[6] indicated that the drug was effective in eliminating a troublesome epidemic of ulcerative cecitis among their laboratory rats, and no doubt this information had some influence in leading to its trial in ulcerative colitis in man. Such trials have been very disappointing and have led in almost all published reports to warnings concerning its toxicity.[4] In the treatment of typhoid the drug has been most disappointing and in some cases harmful.[7] However, Levi and Willen[8] found the drug effectual in ridding a typhoid carrier of the infection when all other measures, including appendectomy and cholecystectomy, had failed. It would be natural not to expect ulceration in such a case.

Every published report of the use of the drug therapeutically in bacillary dysentery is consistent in reporting good results with almost negligible toxic reactions.[9] For this reason I feel that I should not burden the reader with a discussion of the therapeutic response in my epidemic except to say that in every case improvement of the child in every way in the first eighteen

3. Marshall, E. K., Jr.; Bratton, A. C.; Edwards, Lydia B., and Walker, Ethel: Sulfaguanidine in the Treatment of Bacillary Dysentery, Bull. Johns Hopkins Hosp. **68:** 94-111 (Jan.) 1941.

4. Schwartzman, Joseph, and Grossman, Leo: Sulfaguanidine, Failure and Toxicity in One Case, Arch. Pediat. **58:** 734-737 (Nov.) 1941. Corwin, W. C.: Sulfaguanidine: Chronic Toxicity, Bull. Johns Hopkins Hosp. **69:** 39-52 (July) 1941. Firor, W. M., and Poth, E. J.: Intestinal Antisepsis with Special Reference to Sulfanilylguanidine, Ann. Surg. **114:** 663-671 (Oct.) 1941. Flippin, H. F.: Symposium on Military Medicine: Chemotherapy of Acute Infections, M. Clin. North America **25:** 1799-1812 (Nov.) 1941. Cole, S. L.: Sulfaguanidine Toxicity, J. A. M. A. **120:** 196-197 (Sept. 19) 1942.

5. Fairley, N. H., and Boyd, J. S. K.: Sulfaguanidine in Bacillary Dysentery, Lancet **1:** 20-21 (Jan. 3) 1942.

6. Bloomfield, A. L., and Lew, William: Effect of Sulfaguanidine Against Ulcerative Colitis of Rats, Proc. Soc. Exper. Biol. & Med. **48:** 363-368 (Oct.) 1941.

7. Firor, W. M., and Jonas, A. F.: Use of Sulfaguanidine in Surgical Patients to Control Coliform Bacilli in Operations of the Colon, Ann. Surg. **114:** 19-31 (July) 1941. Lyon, G. M.; Folsom, T. G.; Parsons, W. J., and Sprouse, Irma: Sulfaguanidine in "Bloody Flux," West Virginia M. J. **38:** 19-27 (Jan.) 1942. Ringelman, N. B.: Sulfaguanidine Causing Eruption, Arch. Dermat. & Syph. **43:** 325-355 (Feb.) 1942.

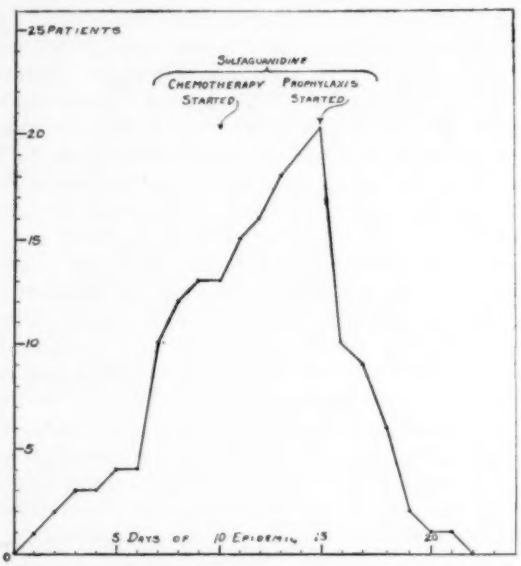
8. Levi, J. E., and Willen, Abner: Typhoid Carrier State Treated with Sulfaguanidine, J. A. M. A. **116:** 2258 (May 17) 1941.

9. Long, P. H.: Clinical Use of Sulfanilamide, Sulfapyridine, Sulfathiazole, Sulfaguanidine and Sulfadiazine in Prophylaxis and Treatment, Canad. M. A. J. **44:** 217-227 (March) 1941. Lyon, G. M.: Sulfaguanidine in Acute Bacillary Dysentery, U. S. Naval M. Bull. **39:** 278-293 (April) 1941; West Virginia M. J. **37:** 54-56 (Feb.) 1941. Beling, C. A., and Abel, A. R.: J. M. Soc. New Jersey **38:** 629-633 (Dec.) 1941. Anderson, D. E. W.; Cruickshank, R., and Walker, J.: Treatment of Dysentery (Flexner) with Sulfaguanidine, Brit. M. J. **2:** 497-501 (Oct. 11) 1941. Eblen, J. C.: Sulfaguanidine in Treatment of Enteric Infections, South. M. J. **35:** 302-305 (March) 1942. Edwards, L. B.: Sulfaguanidine in Bacillary Dysentery, South. M. J. **35:** 49-55 (Jan.) 1942. Marshall, Bratton, Edwards and Walker.[3] Fairley and Boyd.[5] Lyon, Folsom, Parsons and Sprouse.[7]

hours was dramatic, that cure was effected in all cases within a very short time and that no relapses occurred. The dosage and technics used followed as closely as possible those recommended by Marshall and his co-workers.[3] No toxic reactions of any sort were observed in any of the 20 patients treated with the drug, or in the other children, nurses, cooks, waitresses, attendants and teachers who voluntarily took the sulfaguanidine in small doses as a prophylactic measure.

EPIDEMIOLOGY AND PROPHYLAXIS

Therapeutic use of sulfaguinidine had been started on the ninth day of the epidemic, but in spite of this fact the number of our children ill in bed rose steadily, because although those treated were rapidly recovering, new cases were developing faster than recoveries were being made. This is illustrated in the accompanying chart. An interesting fact about our epidemic was that for the first ten days all patients were living on the second floor. The fact that all the children were fed by the same attendants and nurses and that the food



Course of epidemic of bacillary dysentery showing sudden arrest after prophylactic use of sulfaguanidine.

was all prepared in the same kitchen by the same cooks indicates that the original infection developed in a child on the second floor. Although unable to prove his responsibility, we suspected 1 boy who had come to us six weeks before with a history of recurrent unexplained diarrhea at intervals throughout the preceding three months. He was the son of a physician and had been well studied. This was one of the children in whom the laboratory was able to demonstrate the dysentery bacillus by culture. Our suspicion that he was the original source of infection is augmented by the fact that after he had been treated with sulfaguanidine he never again had another attack of the unexplained diarrhea with which he had suffered at intervals up until the epidemic started.

Because of their age, and in most instances also because of their limited mentality, children of this group are much more apt to contaminate others and themselves with fecal material than the older or the higher mental groups. We felt that this was the manner in which the epidemic was spreading, but isolation of those actively ill failed to stop the spread of the epidemic. On the tenth day of the epidemic the disease first appeared on the third floor, and on the twelfth day a nurse became ill with typical symptoms of the disease. On the fifteenth, because no decrease in the spread of the disease was noted, it was decided to give sulfaguanidine to all the children and to all the personnel willing to take it, and this willingness was unanimous.

PROPHYLACTIC DOSAGE

A brief search of the literature on the drug was made as soon as prophylactic use was considered, but I was unable to discover any precedent on which to base a scheme of dosage. Consequently an arbitrary dosage schedule was used on the following rationale: If, as is indicated by the best works, the absorption of sulfaguanidine is negligible, then its concentration in the bowel is dependent on the dosage and volume of intestinal content in which a given dose is suspended or dissolved. The concentration at a given point anywhere in the bowel will be dependent on two factors only: the dosage per unit of time, and the volume of intestinal content passing that point per unit of time, provided sufficient time has elapsed to bring the concentration up to a fairly good equilibrium.

It is apparent to most of us who see a great many children intimately that the normal volume of intestinal content per day as indicated by the volume of feces excreted is on the average equal to the amount passed by the average adult. For this reason it was decided to give the same dosage to all persons receiving the drug prophylactically, with no consideration of their size or weight.

On the same rationale, the dosage for a normal person with a comparatively small volume of large intestinal content would be considerably smaller than the dosage for a child weighing only one third as much but with an active diarrhea. It is not forgotten that diarrhea is largely due to lack of resorption of water in the large bowel and that therefore concentration of the drug in the small intestine when given prophylactically was considerably less than when the drug was given therapeutically.

Arbitrarily, then, it was decided to give each person in the building not suffering with dysentery a 0.5 Gm. tablet of sulfaguanidine three times a day. The prophylactic administration started at noon on the fifteenth day of the epidemic, and we were fortunate in having the cooperation of every employee in the building. The drug was given in this dosage to 31 children who were still well and to all employees in the building part or full time. This meant that a total of approximately 50 persons took the drug prophylactically.

RESULTS OF PROPHYLAXIS

Following the institution of the prophylactic use of the drug, 1 child became ill with the typical signs and symptoms of bacillary dysentery. This case developed within one hour after the first prophylactic dose was given. His dosage was stepped up to the therapeutic level and he was symptomless in thirty-six hours. After this not another child became ill, and within forty-eight hours the nursing problem, which had been very acute for nearly two weeks, no longer existed as a major problem. The chart shows graphically how the nursing problem was eased through the sudden cessation in the development of new cases, combined with the continued recovery of children under treatment. The effect of giving sulfaguanidine in very small doses prophylactically seemed perfectly obvious, especially to the nurses who had been coping with a continuous siege of diarrhea for two weeks.

Four days after the full recovery of the child who became ill last, the prophylactic dose was stopped for all individuals. There were no further signs of the disease in any one in or connected with the building.

No toxic signs nor subjective symptoms were noted in any of the patients or in any well persons taking sulfaguanidine prophylactically.

Stool cultures were repeated ten days after and three weeks after full recovery of the last child in whom a positive stool culture had been found. These were all negative. Culture was again repeated several months later on the boy whom we suspected of being the source of the infection, and this was negative. The boy remained well and still remains so a year later, although prior to the epidemic he had been having recurrent bouts of diarrhea at frequent intervals for three or four months.

AGGLUTINATION TESTS

Blood from all patients, all children not infected (with the exception of one from whom it was very difficult to get blood), 18 nurses and teachers and 1 nurse who had had the infection was taken from the veins one week after cessation of the epidemic. Each blood serum was agglutinated against four dysentery strains of organism, namely Flexner, Hiss, Shiga and Strong. Six titer dilutions were used: 1:20, 1:40, 1:80, 1:160, 1:320 and 1:640.

Results Obtained with Original Cultures of Three Children

Patient	Sonne	Flexner	Shiga	Hiss
B. B.	++++	++	0	++
B. M.	+++	0	+	0
J. D.	+++	0	0	0

Following this, the original cultures of 3 children which had been saved were used for agglutination against Sonne, Flexner, Shiga and Hiss strain serums. The results given in the accompanying table were obtained, which strengthened our conclusion that we were dealing with the Sonne strain.

SUMMARY AND CONCLUSIONS

1. A rapidly progressing epidemic of bacillary dysentery among mentally handicapped children receiving the best of care was stopped abruptly by the prophylactic use of sulfaguanidine in all well children and personnel in the building after other segregation and treatment methods had failed. The dosage for each subject, whether adult or child, was 0.5 Gm. three times a day by mouth. Similar use has not been mentioned in any literature found.

2. In a comprehensive review of the literature on sulfaguanidine it was noticed that in all reports of reactions of any serious degree the drug was used for patients who were known to have intestinal ulceration or in diseases in which it is usual to expect breaks in the continuity of the intestinal mucosa. I believe it is dangerous to use the drug in the presence of breaks in the intestinal mucosa.

This opinion does not necessarily apply to the use of the drug in the presence of breaks in the intestinal mucosa such as repaired operative incisions in the intestinal wall which have been closed and present no considerable area of denuded wall for absorption.

3. No toxic signs or symptoms of any kind were noted either among our ill patients or among those receiving the drug therapeutically. This is in agreement with most other writers who have used the drug for bacillary dysentery.

4. Used therapeutically, the drug was dramatically successful in every case in which it was used.

5. Because it is felt that other papers have established the effectiveness of the drug used therapeutically, case reports and charts which had been prepared from them are here omitted.

MALIGNANT LEUKOPENIA SUCCESSFULLY TREATED WITH SULFAPYRIDINE

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In this country urinary tract infections are much more frequently seen and, in our malnourished, multi-infected patients, of a far more serious prognosis than literature would lead one to expect.[1] The introduction of the sulfonamide compounds into the therapy of coliform group infections considerably improved the outlook. And yet the gravest of these cases, those showing a leukopenia, remained excluded from the beneficial and even life saving effect of this treatment, because of the clinical rule that a diminished number of leukocytes excludes the use of the sulfonamides. Such patients, being usually severely anemic and refractory to methenamine and pentose nucleotide, had a mortality of approximately 100 per cent, a fact to which the local difficulty of getting blood donors contributes. In the literature available here, only 2 cases of leukopenia and acute agranulocytosis were found [2] in which, along with pentose nucleotides and blood transfusions, sulfathiazole was used successfully.

The following 2 cases may show that a trial with sulfapyridine without any additional medication might change the hitherto apparently hopeless prognosis:

CASE 1.—H. R., a man aged 45, a Hindu, was admitted to our hospital on Oct. 10, 1942 in an irrational and delirious state. His attendant stated that eight days of a continuous high fever with a rigor on the first day preceded the admission. The heart and lungs showed no pathologic signs. The blood pressure was 115/85. The liver and spleen were not enlarged. The prostate gland was moderately enlarged and of increased consistency. The nervous system showed nothing abnormal. Urinalysis showed albumin 2 plus, sugar absent and, microscopically, red blood cells 2 plus, leukocytes 2 plus and granular casts 2 plus. Culture of the urine yielded Pseudomonas. The leukocyte count was 15,600 and the differential picture neutrophils 84 per cent and lymphocytes 14 per cent. Blood urea was 55 mg. Malarial parasites were not found. The malaria flocculation test was negative. The Widal test was negative (on admission and six days afterward). The Wassermann, Kahn and Kline reactions were negative. The pulse rate was 105 to 120. The temperature was 102.5 F., dropping to normal after two days and remaining so for a fortnight. During this afebrile period the patient was treated with intravenous injections of dextrose and methenamine; his delirious condition subsided and he became rational and cooperative. He still showed signs, however, of a severe toxemia; the tongue was dry and heavily coated, the pulse was feeble and fast,

From the Krishnarajendra Hospital and Medical College, University of Mysore.

1. Heilig, Robert, and Puttaiya, M.: Coliform Group Infections of the Urinary Tract; Their Clinical Types and Incidence in Mysore, Indian M. Gaz., to be published.

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an exudative iridocyclitis developed and the pathologic urinary findings persisted. Seven days after admission (October 18) the leukocyte count was 7,400 with the differential picture as follows: neutrophils 82 per cent, lymphocytes 15 per cent, large monocytes 2 per cent, eosinophils 1 per cent. After another week (October 25) a rigor set in and the temperature rose to 102 F.; subsequently the malaria flocculation test became positive and daily quinine was administered by intravenous injection. In spite of this therapy, after an afebrile interval of only three days, another rigor occurred and again the temperature reached 102 F. (October 28), with small intermittences, remaining on this level for three days, at the end of which time it rose to 103 F. (October 31). While the fever lasted the signs of toxemia gradually increased, leading to a comatose condition with deeply clouded consciousness, passing of urine and feces in bed and a pulse hardly palpable with a rate of 136 a minute. At this stage the leukocyte count was 2,600 with a differential distribution of 4 (!) per cent neutrophils, 81 per cent lymphocytes, 7 per cent large monocytes and 8 per cent eosinophils. All kinds of circulatory stimulation proving of no avail and the general condition rapidly deteriorating, we decided, in spite of leukopenia and granulocytopenia, to try sulfapyridine, giving 1 tablet every six hours (October 31). The next day, after administration of 4 tablets, the highest temperature was 99.8 F. against 103 F. the previous day; the leukocyte count rose to 3,750, the neutrophils to 12 per cent, after another 4 Gm. within the next two days to 20 per cent with a total amount of 5,800 (November 3). At this time the patient was fully conscious and rational and asking for food; the pulse rate was 80 to 88 and the temperature had been normal since November 2 and remained normal except for two minute rises in the next six weeks, at which time the patient was seen the last time (December 15). The whole course consisted of 14 tablets of sulfapyridine and lasted for three and one-half days. Apart from nikethamide, no other treatment was used from the moment that the first sulfapyridine tablet was given. The surprising rise of the leukocytes to 9,375 with 58 per cent neutrophils on November 5 and to 8,750 with 73 per cent neutrophils on November 11, ten days after the sulfapyridine treatment was started, is shown with further observations in table 1. Simultaneously the patient recovered quickly, the urine became normal in all respects and four weeks after having reached a seemingly hopeless condition the patient was discharged, fit for resuming his work.

TABLE 1.—*Course of Disease in Case 1*

Date	Temperature, F.	Leukocytes: Total	Neutrophils	Lymphocytes	Monocytes	Eosinophils	Therapy
October 11	102.8	15,600	86	14	..	..	Dextrose intravenously; pyelopurin intravenously
18	98.2	7,400	82	15	2	1	Dextrose intravenously; pyelopurin; ascorbic acid
31	103	2,600	4	81	7	8	Sulfapyridine 1.0 Gm.
November 1	99.8	3,750	12	87	..	1	Sulfapyridine 2.0 Gm.
2	98.2	3,800	16	83	..	1	Sulfapyridine 2.0 Gm.
3	98.5	5,800	20	79	..	1	Sulfapyridine 1.25 Gm.
5	98.2	9,375	58	42	..	..	.....
9	99.5	12,250	65	33	..	2	.....
11	98.2	8,750	73*	27	..	..	.....
16	98.2	9,250	80	19	..	1	Elixir vitamin B complex with glycerophosphates
19	98.2	10,800	76	24	..	..	Elixir vitamin B complex with glycerophosphates
22	98.2	11,200	..	..	..	..	Elixir vitamin B complex with glycerophosphates
December 7	98.2	12,000	..	..	..	..	Exsiccated sodium arsenate
15	98.2	10,900	70	29	..	1	.....

* A decided shifting of the nuclear picture to the left was noticed from this day on for six days.

TABLE 2.—*Course of Hospitalization in Case 2*

Date	Temperature, F.	Red Blood Cells, Millions	Hemoglobin, per Cent, Sahli	Leukocytes: Total	Neutrophils, per Cent	Lymphocytes, per Cent	Eosinophils, per Cent	Therapy
November 27	98.2	1.2	22	2,400	55	45	..	
December 3	98.2	...	..	2,500	52	48	..	Mixture of pepsin and hydrochloric acid
10	104, rigor	0.9	16	1,800	18	79	3	Sulfapyridine, 1.0 Gm.
12	100	...	..	2,500	26	74	..	Sulfapyridine, total 5.0 Gm.
13	98.2	...	..	3,700	36	62	2	Sulfapyridine, total 7.0 Gm.
15	98.2	...	..	4,300	72	28	..	Sulfapyridine, total 9.75 Gm.
17	98.2	1.1	20	10,300	77	23	..	Sulfapyridine stopped on December 16, total 10.25 Gm.
19	98.2	...	..	6,000	78	22	..	2d injection of crude liver extract
22	98.2	1.35	25	6,800	80	20	..	5th injection of crude liver extract
24	98.5	...	..	7,000	..	..	..	7th injection of crude liver extract
26	....	...	..	7,420	76	22	2	8th injection of crude liver extract
28	....	...	..	7,210	..	..	..	10th injection of crude liver extract
30	....	1.6	28	7,300	76	24	..	
Jan. 1, 1943	....	...	..	7,000	80	20	..	
7	....	2.2	40	6,800	76	22	2	14th injection of crude liver extract
13	....	2.5	40	6,800	74	25	1	
20	....	...	..	7,000	73	25	2	
25	....	...	..	6,800	72	27	1	After 5 pyelopurin injections

CASE 2.—J. L., a woman aged 30, a Hindu, admitted to our hospital on Nov. 26, 1942, gave a history of diarrhea, pain in the abdomen, rigor and fever off and on for the last year. She was highly emaciated and moderately anemic. But, apart from one rise up to 101 F. on the third day of hospitalization, her temperature remained normal for eight days, and during this period only one thick pasty stool was passed every day. Clinical and radiologic examinations showed that the heart and lungs were normal. A fluoroscopic investigation of the stomach with barium sulfate could not be performed because of her extreme weakness. A barium sulfate enema showed diminished haustration of the descending colon. The liver was not palpable, the spleen was slightly enlarged but malarial parasites were not found and the malaria flocculation test was negative. The pelvic organs showed no pathologic changes. The tuberculin test (Mantoux) was negative. A fractional

test meal showed achlorhydria (free hydrochloric acid 0, total acidity 6 to 16; mean values 0 to 10). The stools showed nothing abnormal on microscopic examination and no pathogenic micro-organisms on culture. The urine showed traces of albumin, a few erythrocytes and a fair amount of pus cells, (2 plus); culture of the urine yielded Aerobacter aerogenes. Analysis of the blood revealed 1,200,000 red cells, showing anisocytosis, the hemoglobin level 22 per cent (Sahli) and color index 0.9. Leukocytes numbered 2,400 with a differential count neutrophils 55 per cent and lymphocytes 45 per cent; six days later the leukocytes numbered 2,500 with a similar differential picture. The sedimentation rate was 24 mm. the first hour and 68 mm. the second hour.

On the ninth day after admission (December 4), when the diet, which consisted of wheat conjee and buttermilk, was changed to boiled unpolished rice and buttermilk, the patient had three loose bowel movements and the temperature rose to 100 F.; the following day the diarrhea increased and, accompanied by two rigors, the temperature rose twice to 104.5 F. Plantago seed diet controlled the bowel action within twenty-four hours, but in spite of intravenous injection of quinine and of methenamine, a decidedly intermittent fever persisted for six consecutive days, varying every day between 100 and 104 F., the steep rise almost regularly being ushered in by a rigor. The urine showed innumerable pus cells which formed a thick creamy sediment, though on culture again only Aerobacter aerogenes was growing. The patient was unable to speak understandably, the tongue was extremely dry and was covered with brown fur; the pulse, which was hardly palpable, reached a rate of 134. On the sixth day (December 10) of this high febrile condition the leukocyte count was 1,800 with 18 per cent neutrophils, 79 lymphocytes and 3 per cent eosinophils. The erythrocytes numbered 900,000, with hemoglobin 16 per cent (Sahli). The prognosis seemed to be so gloomy that we thought it justifiable to take every risk that might give the patient the slightest chance of overcoming this septicemic condition, which certainly originated from the urinary tract. In spite of the severe leukopenia and granulocytopenia a course of sulfapyridine was started with 1 tablet every six hours, the doses being gradually reduced until 20½ tablets (10.25 Gm.) had been given within six days. The result was most astonishing. After 4 tablets of sulfapyridine the temperature came down from 104 F. on December 10 to normal on the following day, and the patient remained perfectly afebrile, except for one single rise to 100 F. on December 12 up to Jan. 28, 1943. Table 2 shows how the leukocyte count increased from 1,800 on December 9 to 2,500 on the 12th, to 3,700 on the 13th and to 10,300 on the 17th and was stabilized at about 7,000 during the following month; the percentage of neutrophils simultaneously rose from 18 to 26, 36 and 77 within seven days, remaining constant at about 75 to 80 per cent.

It was a most impressive experience to see how quickly the apparently moribund patient turned to a convalescent with a well sustained pulse, though still of an increased rate, a rapidly clearing moist tongue and improving appetite. To stimulate the regeneration of the red blood picture, which by the end of the sulfapyridine treatment showed 1,100,000 erythrocytes and 20 per cent hemoglobin (Sahli), a series of fifteen injections of crude liver extract (Pronaemia) was given, accompanied by dried yeast 1 teaspoon twice a day. On January 13 the figures were 2,500,000 red blood cells, 40 per cent hemoglobin (Sahli), 6,900 leukocytes, 74 per cent neutrophils and 25 per cent lymphocytes. The sedimentation rate was 7 mm. the first hour and 17 mm. the second hour. Without administering any other treatment the condition of the urine improved considerably, though it had not become normal; on January 15 albumin was absent and a fair amount of leukocytes was present; culture yielded a few colonies of Escherichia coli. The bowel action remained normal throughout the entirely uneventful convalescence and even the gastric function improved considerably; on January 16 a fractional test meal showed free hydrochloric acid 0 to 28, total acidity 8 to 46; mean values were free hydrochloric acid 11 and total acidity 22, as against achlorhydria on admission.

COMMENT

It is a generally accepted clinical rule that the sulfonamides are strictly contraindicated in all cases of leukopenia, especially when a granulocytopenia is present. This rule is based on the fact that members of the sulfonamide group tend toward diminishing the number of leukocytes in general and the granulocytes in particular to such an extent that fatal consequences due to acute agranulocytosis have been reported in numerous instances. This danger is supposed to threaten whenever full doses of one of these compounds are used, so much so that leukocyte and differential counts should be performed at short intervals and the application of these drugs stopped at once when the total amount of white cells or the percentage of neutrophils shows a tendency to decrease.

Furthermore it is well known not only that sulfanilamide, sulfapyridine and other sulfonamide compounds interfere with the leukopoiesis but also that the red blood cell count occasionally shows such a reduction that blood transfusions might be required.[3] Quite recently Chaudhuri [4] found that therapeutic doses of sulfanilamide and sulfapyridine in monkeys cause "a moderate and progressive anemia" and "a consistent decrease of leukocytes." Nevertheless the reasoning might be justified that a toxic arrest of the leukopoietic activity of the bone marrow, causing leukopenia and granulocytopenia, could be counteracted and the normal marrow function restored if one succeeded in eliminating the source of toxin production.[5] Thus the question arises whether it is probable that the sulfonamides would exert their bacteriostatic action, which inhibits the further release of toxins, more rapidly than their paralyzing influence on the bone marrow. Dameshek and Wolfson [2] found in 2 cases of acute agranulocytosis that sulfathiaizole did no harm and that it might have been of value in combating the secondary sepsis, although no definite proof for the latter opinion could be presented because it was given in addition to transfusions and pentnucleotides. So far as 2 cases can show small doses of sulfapyridine are capable of improving the rapidly declining leukopoiesis if the infective organisms responsible for the severe toxemia respond promptly to the drug. In our cases such a response was established—apart from the changes in the blood picture—by the fact that the fever subsided immediately and the general condition, which prior to sulfapyridine medication apparently precluded any hope, improved so speedily and completely without the employment of any other treatment that a spontaneous or chance recovery obviously was out of the question.

The course of events leading to this development, unexpected in several aspects, could be reconstructed and the origin of the toxemia traced in the following way: In the first case a hypertrophied prostate gland which, as the patient later stated had caused typical complaints for the past one year, caused urinary stagnation with a subsequent infection of the urinary tract. A tendency to a low leukocyte count is not rarely seen in coliform group infections,[1] so that an unusually heavy infection, such as was proved in this case by the

3. Harvey, A. M., and Janeway, C. A.: Development of Acute Hemolytic Anemia During Administration of Sulfanilamide, J. A. M. A. **109:** 12 (July 3) 1937. Kohn, S. E.: Acute Hemolytic Anemia During Treatment with Sulfanilamide, ibid. **109:** 1005 (Sept. 25) 1937.

4. Chaudhuri, S.: Action on the Hemopoietic System of Monkeys of Drugs of the Sulfonamide Group Administered in Therapeutic Doses, Ann. Biochem. Esp. Med. **2:** 129-180 (No. 3) 1942.

5. Long, P. H., and Bliss, Eleanor A.: The Clinical and Experimental Use of Sulfanilamide, Sulfapyridine and Allied Compounds, New York, Macmillan Company, 1939.

onset with a rigor, the high fever and the delirious condition, might have turned the initial leukocytosis to leukopenia, which renders the system defenseless against a further invasion and unrestrained multiplication of all kinds of pathogenic micro-organisms. The second patient suffered from diarrhea which lasted for one year up to her admission. Though it recurred only on the ninth day of her stay in the hospital and lasted for a few days, easily controlled by Plantago seed diet, it is significant that this short attack of diarrhea the very next day was followed by the heaviest febrile attack, with two rigors, the temperature reaching 104.5 F. twice within one day. The explanation is that during the chronic diarrhea which preceded the patient's hospitalization a chronic infection of the urinary tract, proved microscopically and bacteriologically on admission, was established, owing to the increased permeability of the affected mucous membrane of the colon. The acute diarrheal relapse certainly was due to an increased virulence of the intestinal bacterial flora which invaded the urinary tract in force and, most probably, simultaneously entered the systemic circulation. Proof of the former process is the enormous increase of pus cells (4 plus) in a catheter specimen of the urine; the latter—the development of a septicemia—is almost ascertained by the occurrence of six rigors in eight days of high fever, uninfluenced by intravenous administration of quinine. The close connection between diarrhea and subsequent urinary tract infection was experimentally established by Leishman [6] and is noticed in almost all of our diarrhea cases, especially in women. In contrast to the first case, leukopenia of 2,400 to 2,500 leukocytes per cubic millimeter with a relative lymphocytosis already present was found on admission. The further development clearly shows that this white blood cell picture was due not to some constitutional peculiarity but only to the urinary tract infection, the leukocyte count subsequent to the successful treatment of the septicemia being constant at about 7,000 with a normal differential picture. It is noteworthy that the red blood cell count did not improve simultaneously with the leukocytes but required administration of crude liver extract. In both of these cases small doses (1.5 to 2.5 Gm.) of sulfapyridine succeeded in cutting short the course of the fever and further administration of 2 Gm. a day, making a total of 6.25 Gm. and 10.25 Gm. respectively, in keeping the patients afebrile. It is highly improbable that such doses should have been sufficient to achieve sterilization of the heavily infected urinary tract, the more so as in case 2 Escherichia coli was found in the urine after one month of afebrility, normal bowel function and general well-being. The explanation of the successful medication obviously is that the drug, exerting its generally recognized bacteriostatic action, stopped further bacterial multiplication and prevented a renewed invasion of the circulation as well as further production of toxin, thus enabling the patient's defense mechanisms to deal with the bacteria which already were present in the system when the treatment was started.

When these cases were presented [7] the discussion hinged on whether the development of leukopenia was not precipitated by the intravenous use of quinine and methenamine with sodium salicylate and caffeine with sodium salicylate (Pyelopurin). For the investigation of this question 4 patients with particularly severe malarial and 4 with highly febrile urinary or biliary tract infection, all of them in a very low condition, were selected and treated with full doses of quinine or the proprietary methenamine mixture respectively by the intravenous route.

In each of these cases a total leukocyte count and differential picture have been determined before and twelve to twenty-four hours after conclusion of a course of either five quinine injections, containing 35 grains (2.3 Gm.) of quinine dihydrochloride, or of 5 ampules of "pyelopurin intravenous," each of them containing methenamine 30 grains (2 Gm.), sodium salicylate 12 grains (0.8 Gm.) and caffeine with sodium salicylate 3 grains (0.2 Gm.). In 2 of the cases in which quinine was given, the leukocyte count increased; in the other 2 it remained unaltered. The proportion of neutrophils showed variations of ± 10 per cent with a maximum of 80 and a minimum of 60 per cent after treatment. Similarly insignificant were the changes following medication with the methenamine mixture. In addition to our 8 control patients, the second of our 2 leukopenia patients (J. L.) received a course of five intravenous injections of the methenamine preparation when after one month of well-being Escherichia coli was found in her urine; on conclusion of this medication (January 25) the leukocyte count was 6,800, the differential picture 72 per cent neutrophils, 27 per cent lymphocytes and 1 per cent eosinophils. These results make it highly improbable that in our cases leukopenia and granulocytopenia should have been due to doses of quinine or methenamine with sodium salicylate and caffeine with sodium salicylate which were smaller than those used in the control cases, though it cannot be excluded that in rare instances of hypersensitivity against these compounds and a constitutional weakness of the leukopoietic apparatus such a reaction might develop.

SUMMARY

Two cases of highly toxemic infections of the urinary tract were characterized by considerable leukopenia and granulocytopenia.

In both of them small doses of sulfapyridine, without any other treatment, brought about a rapid improvement of the general condition, especially of the white blood picture, leading to recovery from seemingly hopeless conditions.

Eight control cases were studied to see whether quinine or the methenamine-sodium salicylate-caffeine with sodium salicylate mixture administered by intravenous injection diminishes the amount of leukocytes or the percentage of neutrophils. Such changes were not seen in these cases.

6. Leishman, A. W. D.: Bacillus Coli Infection of the Urinary Tract, Lancet **2**: 971-973 (Nov. 4) 1939.
7. Nov. 26, 1942 and Jan. 14, 1943, Mysore Medical Association.

Vinegar.—If a saccharine liquid (e. g. cider) which has been fermented by yeast is left undisturbed and exposed to a limited supply of air, it gradually becomes acid and eventually turns into vinegar. Vinegar formation is a second fermentation, which follows alcoholic fermentation. Bacteria are the agents involved and they oxidize ethyl alcohol, first to acetaldehyde and then to acetic acid. . . . The so-called mother of vinegar, Mycoderma aceti, as Pasteur named it, consists of a number of species of bacteria rather than a single organism. These bacteria produce a slimy, gelatinous growth on the surface of the liquid, which falls to the bottom and is succeeded by a new film. The bacteria contained in the film bring about the conversion of the alcohol into acetic acid.—Peterson, William T.; Skinner, John T., and Strong, Frank M., Elements of Food Biochemistry, New York, Prentice-Hall, Inc., 1943.

THE FREQUENCY OF INADEQUATE ANTIDIPHTHERIA IMMUNIZATION

IN AN INFECTIOUS DISEASE HOSPITAL

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A positive Schick test is evidence that there is not sufficient circulating antitoxin to prevent the action of injected diphtheria toxin on the skin. Sufficient humoral immunity may be present to insure a negative Schick test after an attack of diphtheria or after active immunization, but the amount and duration of immunity varies in different people. Even a partial immunization may stimulate the immunity mechanism so that it reacts more actively with the restimulation of disease and, accordingly, is advantageous. However, a history of immunization, unless checked by a dermal test, should not be used to exclude the diagnosis of diphtheria in the presence of clinical signs of the disease.

In order to determine the proportion of Schick positive children among those previously immunized, the parents of all children admitted to Willard Parker Hospital for diseases other than diphtheria during the months of June through September 1941 were carefully interrogated regarding immunizing procedures.[1] Willard Parker Hospital is a contagious disease hospital in New York City where Schick and Dick testing are routine procedures on admission. The group studied consisted of children of both sexes from 1 to 16 years of age. Forty-eight, or 24 per cent, of the 200 previously immunized patients were Schick positive. The age and sex distribution of the positive reactors did not differ from that of the group tested. In none of the infectious diseases was there a disproportionate number of positive Schick reactors. Measles has been observed to produce a diminished tissue resistance to the diphtheria toxin, but no statement based on this study can be made on the especial effect of measles on the diphtheria protective mechanism after immunization, because among 2,068 patients admitted for measles in the first six months of 1941 there were only 2 patients with clinical diphtheria. One had received toxoid and one had not received any immunization.

During the eighteen month period extending from Jan. 1, 1940 through June 31, 1941 there were 88 patients admitted to Willard Parker Hospital for clinical diphtheria. Of these patients 29, or 32.9 per cent, had previously been immunized. These patients had received from one to four injections of an immunizing agent. Subsequent Schick tests had not been performed on any. In 5 patients, or 5.6 per cent, no definite history in reference to immunization could be obtained. In 54 patients, or 61.4 per cent, no attempt to immunize had been made. The location of the membrane was uninfluenced by immunization, as shown in the accompanying table.

The immunized patients were not as severely ill as those in whom immunization had not been attempted. In the nonimmunized group there were five deaths, whereas there were no deaths among the patients who had received some immunizing injections, even though they were insufficient to prevent the disease. The average duration of illness before admission was the same in the two groups. There was considerable delay in the administration of diphtheria antitoxin in some patients because when there was a history of injections the physicians in attendance or in outpatient departments assumed that the throat infection was not due to diphtheria. The fact that patients may receive prophylactic injections without developing complete immunity is not sufficiently recognized. After partial immunization the illness may be very severe and clinically typical. The diagnosis of diphtheria must be made from the constitutional and local response to the toxin. Antitoxin should be given without delay. We give here an illustrative history of a patient from whom diphtheria antitoxin was temporarily withheld:

Location of Membrane in Immunized and Nonimmunized Patients

	Immunized	Per Cent	Nonimmunized	Per Cent
Nasal	5	17.2	15	27.7
Pharyngeal	16	55.1	26	48.1
Laryngeal	1	3.4	1	1.8
Combined	7	24.1	12	22.2
	29	99.8	54	99.8

REPORT OF CASE

P. C., a girl aged 3 years, admitted to Willard Parker Hospital on March 28, 1941, had received 1 cc. of toxoid on Feb. 15, 1940 and 1 cc. on March 1, 1940. There had been no subsequent Schick test. Four days before admission, measles developed. On March 26 a croupy cough and slight retractions were present. On this day the croup was attributed to measles, and antitoxin was withheld by the family physician because of the history of immunization. This physician saw the patient on two occasions, including the day of admission to Willard Parker Hospital. She was seen at the outpatient department of a large hospital on March 28 and antitoxin was not given then because of the history of immunization. The child was brought to Willard Parker Hospital because of the measles. The croupy cough increased and she was very restless. She was acutely ill, toxic and hoarse, with moderate respiratory distress. There was a fading measles rash. The cervical lymph nodes were enlarged but not tender. A dirty, thick grayish membrane was seen on both tonsils, uvula and pharyngeal wall and over the supraglottic and subglottic areas. The heart was rapid, but the tones were of good quality and regular. The temperature was 102.8 F., the pulse rate 124 and the respiratory rate 22. A direct laryngoscopy was done and the larynx was suctioned. Immediately after aspiration of the larynx the respiratory distress disappeared and the voice became less hoarse. Antitoxin 20,000 units intravenously and 40,000 units intramuscularly was given with epinephrine. On the second hospital day the patient coughed up several large pieces of membrane. On the thirteenth day bilateral catarrhal otitis media developed.

SUMMARY

1. Twenty-four per cent of a sample group of 200 previously immunized patients admitted to an infectious disease hospital for disease other than diphtheria were found to be Schick positive.

2. One third of the patients with diphtheria admitted to Willard Parker Hospital during a year and a half had received partial immunization against diphtheria. Antitoxin had been withheld from some patients with clinical diphtheria because of the history of immunization.

This study received support from the Littauer Pneumonia Research Fund.

1. Because of the vagueness of parents' knowledge of technical procedures, all types of immunization have been considered together.

CONCLUSION

1. As measured by a negative Schick test, only 76 per cent of patients admitted to Willard Parker Hospital are effectively immunized by current routine procedures and thus thoroughly protected against the disease.

2. The history of immunization against diphtheria should not lead to delay or failure to administer antitoxin when there is clinical evidence of diphtheria. Unless the Schick test has become and remains negative, immunity should not be assumed.

3. Schick tests should be done after immunization so that if necessary the immunization may be fortified by extra dosage.

62 West Eighty-Seventh Street.

Clinical Notes, Suggestions and New Instruments

PERFORATION OF ESOPHAGUS CAUSED BY FLEXIBLE GASTROSCOPE

REPORT OF CASE WITH AUTOPSY

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LIEUTENANT (jg) R. H. LAGE (MC), U.S.N.R.

Endoscopic examination of the stomach with the rigid gastroscope was a hazardous procedure, and according to Schindler [1] many deaths resulted. With the flexible instrument complications are rare, and only one death has been questionably attributed to its use. Schindler [2] in 1940 reported the results of a questionnaire concerning fatalities in relation to gastroscopic examination. In all, 22,351 gastroscopic examinations were reported. In this series there were eight perforations of the stomach and one of the jejunum, but none of these terminated fatally. One patient died nine days after the examination, but whether the latter was directly responsible for the fatal outcome could not be definitely established. Since this report was published, others have recorded complications, none of which were fatal.[3]

At the University of Iowa 538 consecutive gastroscopic examinations were done without any complications. The technic advised by Schindler was used both in preparation of the patient and in introduction of the instrument. In the case being reported, in which our 539th gastroscopic examination was performed, the patient died twenty-four hours after instrumentation.

REPORT OF CASE

G. P., a white man aged 81, admitted to the University Hospital on March 26, 1942, complained of epigastric distress, tarry stools and loss of weight. He had had attacks of epigastric distress, nausea and vomiting most of his life. Three months before admission he noticed tarry stools for a few days. After that time he lost about 22 pounds (10 Kg.). A transurethral prostatic resection had been performed in 1937.

Physical examination revealed that the patient was emaciated but was not acutely ill. The head and neck were essentially normal. The thorax was long and narrow and was normal to auscultation and percussion. The heart was enlarged both to the right and to the left, auricular fibrillation was present and the blood pressure was 106/74 mm. of mercury. The cardiac rate was 98 a minute. The peripheral arteries were thickened and tortuous. Palpation of the abdomen revealed tenderness in the epigastrium, but no masses were felt. The left testis was absent. The prostate was moderately enlarged and firm but not nodular. The extremities and reflexes were normal.

Examination of the blood showed a hemoglobin content of 12 Gm.; the erythrocyte count was 3.2 million, the leukocyte count 7,900 and the differential leukocyte count normal. Several urinalyses were negative. The blood Wassermann reaction was negative. A roentgenogram of the chest showed that the heart was enlarged, but the lungs were normal. Fluoroscopic and roentgenographic examination of the stomach disclosed a penetrating ulcer on the lesser curvature. The ulcer measured about 1.5 cm. in diameter.

Two days after admission a gastroscopic examination was done. The instrument was passed with ease and depth 1 was readily visualized. The angulus appeared distorted and was pulled to the right. In the midportion of the angulus a triangular defect was seen (Henning's sign). The mucosa was pale, many areas of submucosal hemorrhage were present and mucus adhered to the surface of the gastric mucosa. Just proximal to Henning's sign on the lesser curvature an oval ulcer about 2 cm. in diameter was noted. As this lesion was viewed at a tangent, the floor of the ulcer could not be accurately visualized. The mucosa surrounding the ulcer was pliable and not edematous, and peristalsis was active in this region. Depth 2 showed a slight amount of atrophic and considerable superficial gastritis. Depth 3 was essentially normal. The diagnosis was benign ulcer on the lesser curvature. The gastroscopic procedure lasted ten minutes.

Four hours later the patient complained of pain in his throat and difficulty in swallowing. Six hours later he had a chill, and his temperature rose to 102 F. Physical examination revealed nothing significant. The next morning the patient was cyanotic and had difficulty in breathing. At this time there was pronounced crepitus over the right side of the neck and the right upper anterior portion of the chest. Dulness was present over the bases of both lungs, and many rales were heard. The patient could not speak above a whisper. In a very short time he became comatose and died. Autopsy showed that the tissues of the anterior and posterior mediastinum and entire pericardium were extremely edematous and the seat of a fulminating cellulitis. The tissues of the neck showed a definite fibrinous exudate. No frank pus was found. The esophagus was normal, and even when air was blown into it no perforation could be found. Both lungs showed an extreme degree of hemorrhage, congestion and patchy pneumonia. A penetrating ulcer 2.5 cm. in diameter was present on the lesser curvature of the stomach near the antrum. The organs were essentially normal.

Microscopic sections of the tissues of the neck and upper part of the thorax showed a fibrinous, acute, phlegmonous cellulitis with extreme edema. There was no evidence of localization. The edema and the inflammatory exudate dissected through the tissue septums and even between the individual skeletal muscle fibers. There was no evidence of tissue necrosis. Beta hemolytic streptococci were isolated from these tissues.

COMMENT

We were unable to ascertain why this accident occurred. The instrumentation was exceedingly easy and the patient was very cooperative. At first we thought that the age of the patient was a factor. Since this examination we have completed 500 more without a single complication. In the latter group there were many patients ranging in age from 75 to 83. On two occasions the rubber tip became loose and was lost in the stomach, but neither of these patients showed any trauma either in the esophagus or in the stomach. After the death of the patient the gastroscope was examined carefully but nothing unusual was found. Even though definite perforation was not found at autopsy, it is possible that the tear was very small and was closed by serum or exudate. This is the first known death caused by perforation of the esophagus of a patient with no previous disease of the esophagus or mediastinum.

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This article has been released for publication by the Division of Publications of the Bureau of Medicine and Surgery of the U. S. Navy. The opinions and views set forth in this article are those of the writers and are not to be considered as reflecting the policies of the Navy Department.

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MALIGNANT MELANOMA OF THE CHOROID WITH EXTENSIVE METASTASIS TREATED BY REMOVING SECRETING TISSUE OF THE TESTICLES

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A. K., a man aged 69, had a malignant melanoma of the choroid removed on Sept. 29, 1939 by Dr. J. B. Griffith. The pathologic report of the specimen, which was submitted to Lieut. Col. J. E. Ash, M. C., United States Army, curator of the Army Medical Museum, follows:

"Gross: The eye has been opened in the horizontal plane. The retina is detached, and behind it on one side is a pale mass measuring 16 by 9 mm., which extends from the optic disk to a point midway between the equator and the ciliary body.

"Microscopic: Extending from the ora serrata almost to the optic disk is a tumor mass which appears to be breaking through Bruch's membrane in several places. A few thin walled blood vessels are seen; pigment is not discernible. The cells are spindle shaped with oval nuclei, round or polygonal with abundant cytoplasm and smaller nuclei. All have prominent nucleoli. The Callender-Wilder classification shows the tumor to be less than 50 per cent argyrophil fibered. Extrabulbar extension is not demonstrated.

"Diagnosis: Malignant melanoma of the choroid, spindle cell subtype B, and large and small epithelioid cell; cataract; glaucoma, secondary, early; intraocular hemorrhage; detachment of retina."

A short time after removal of the eye, nodules appeared around the right orbit, followed by numerous masses all through and on the surface of the patient's body. On Dec. 26, 1942 he was in a state of complete physical exhaustion, bedridden and unable to retain food because of nausea induced by a fluid which regurgitated from the pharynx. His liver was enlarged to at least twice its usual size and was nodular. The nodules on the surface of the body varied in size from 3 cm. in diameter to 10 cm.

On December 28, under pentothal sodium anesthesia, the secreting tissue of the right testicle and the entire contents of the left scrotum were removed because of the presence of multiple spermatoceles on that side. His course following this operation was rather interesting in that he had no further nausea and was able to take small quantities of any kind of food that was given to him. There was no more fluid coming from the respiratory tract. There was definite regression of some of the metastatic lesions and no new lesions developed. He seemed to be improving gradually until Feb. 15, 1943, at which time he became unconscious while he was asleep and died. Permission for autopsy was not obtainable.

COMMENT

The basis for the indication for this procedure is not clear, but the line of thought leading to the suggestion for this form of treatment is as follows:

Farrow and Adair[1] reported disappearance of extensive osseous metastases secondary to carcinoma of the breast in a man following castration.

McClelland[2] reported a case of extensive generalized metastasis secondary to a testicular tumor in which the removal of the primary tumor and the sound testicle was followed by rapid disappearance of all the metastatic lesions.

Huggins[3] made a contribution to the biochemical aspects of orchiectomy for carcinoma of the prostate.

In view of these observations I felt that there was a remote possibility of so changing the biochemical status of the patient by removing the testicular tissue that the biochemical soil in which the malignant cells were growing might prove to be unfavorable to their continued expansion and growth.

Since that time there has been another interesting case reported in the literature by George G. Binnie.[4] He reported an extensive metastatic pleomorphic osteogenic carcinoma which almost entirely disappeared following a course of high voltage roentgen therapy combined with the injections of diethylstilbestrol in comparatively large doses. He employed 5, 7.5 and 10 mg. doses daily intramuscularly. This case is not presented with any idea of claiming to comprehend the chemical mechanism involved but simply as an interesting clinical observation.

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REFRIGERATION ANESTHESIA IN SKIN GRAFTING

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Refrigeration anesthesia for skin grafting opens a new field for the use of reduced temperatures in surgery. In 27 cases requiring small or multiple small split thickness skin grafts this method was used. Pinch grafts could be removed equally well, although none were attempted in this series. Results were so satisfactory that this report is submitted for general consideration.

In July 1941 my associates and I began to use refrigeration anesthesia for the amputation of extremities. When an extremity is refrigerated for amputation, a tourniquet is always used.

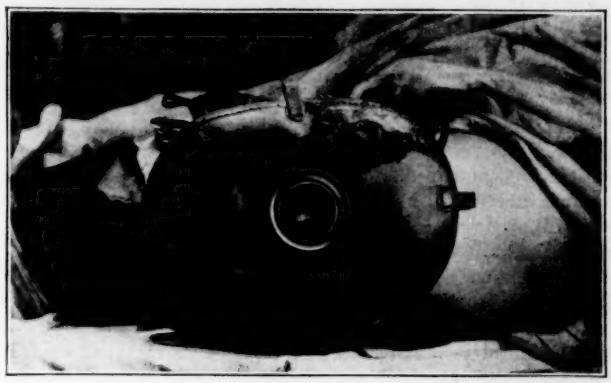

Fig. 1.—Ice bag snugly applied to the skin, preferably with bandages, for two and one-half hours anesthetizes the donor site.

Ordinarily the constriction of a tourniquet is painful. Some of the original workers in refrigeration anesthesia discovered that previous chilling of the tissues with ice bags definitely decreased this discomfort. We corroborated this finding, noting also that the skin was completely anesthetized. It was this ability of ice bags to produce superficial anesthesia that led us to attempt the method on donor sites for skin grafts.

TECHNIC

Two hours before operation, one or more uncovered ice bags are applied directly to the area from which the skin is to be taken. The number of ice bags required depends entirely on the amount of skin to be anesthetized. Slight pressure deepens the anesthesia, so it has been our practice to tie or bandage the ice bags in place. The donor site may be marked and orders left for the nurse to apply the ice bag or bags at the desired time. In hot weather they may have to be refilled, but usually they are not disturbed until the surgeon is scrubbed and ready to prepare the skin. The maximum anesthetic effect lasts approximately twenty minutes after the ice bags have been removed.

Many of our operations are not carried out in the operating room. In the ordinary case, with a small or moderate defect to be grafted, orders are also left to have the necessary instruments in the ward. Then during the course of rounds the

To have been read in the Forum on Surgical Problems before the annual meeting of the American College of Surgeons, Cleveland, Nov. 19, 1942.

Released for publication by the War Department Manuscript Board, which assumes no responsibility, other than censorship, for the contents of this article.

procedure is done at the bedside or in the dressing room. It is amazingly simple—the donor site is cleansed with alcohol, the graft is cut and put in place and dressings are applied.

Preoperative medication is not usually necessary but may be a helpful adjuvant. In this series it was used only for those patients who were apprehensive. They were given morphine sulfate one-half to one hour before operation.

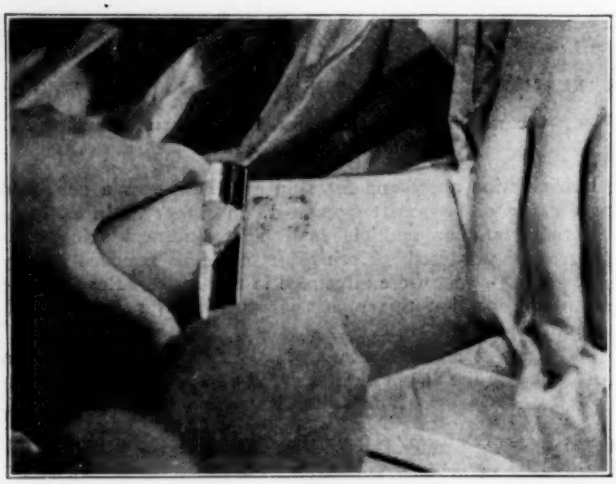

Fig. 2.—Cutting the skin graft from the thigh.

Complete anesthesia was obtained in 24 of the 27 patients prepared by refrigeration. The 3 patients with incomplete anesthesia complained of a burning sensation when the graft was cut, but it was not sufficiently acute to necessitate another form of anesthesia. In each of these cases we were too hasty and did not allow a full two hours for chilling.

Refrigeration does not noticeably affect the growth of the graft or the repair of the donor site. Complete healing occurred in two to three weeks in almost every case. Successful grafts were obtained in 23 of the cases. The 4 failures occurred in patients whose granulations were infected more than we realized and should more properly be ascribed to our error in judgment than to the method. In 2 of these cases subsequently successful grafts were obtained with the same technic. In the other 2 there was slow healing by granulation and epithelization.

Fig. 3.—Placing the skin graft on a small, ulcerated area on the leg.

SUMMARY

A new use of reduced temperatures in surgery, namely anesthesia of skin graft donor sites by refrigeration, is recommended because it is simple, time saving and efficient. It has been used in 27 cases.

EXPLOSIVE INJURY DUE TO SOLID CARBON DIOXIDE

W. ORR GOEHRING, M.D., PITTSBURGH

Carbon dioxide is of increasing importance commercially. Many of its uses rely on its rapid expansion when released from a compressed state.[1] That this expansile force of solid carbon dioxide, the familiar "dry ice," is tremendous can perhaps best be appreciated by the realization that a rifle is now being manufactured using crushed "dry ice" as the propelling force. One loading is sufficient to "fire" 1,800 bullets of 0.22 caliber.[2] It was surprising, therefore, that reports of explosive injuries due to solid carbon dioxide are not to be found in the literature. Indeed, reports of all types of injuries are meager, though Stout [3] and Som and Neffson [4] have each drawn attention to the danger of aspiration. That the continued availability of "dry ice" to enterprising children remains a danger is illustrated by the case reported here:

REPORT OF CASE

K. L., a school boy aged 14, was brought to Columbia Hospital the evening of Dec. 31, 1942 with the history, later verified, that he and a chum had purchased a small block of "dry ice" at a local dairy store. This they had placed in a 5 gallon garden spray can in order to extinguish small fires with the vapor by suffocation. To increase the rate of vaporization, the can was partially filled with water. While they were in the process of building another fire the can exploded, the upper edge striking the patient in the face, knocking him down and traveling a distance of 50 feet. Further history was not significant.

On admission the patient was semiconscious and in mild shock, with a large, gaping laceration of the face. The blood pressure was 115/80, the pulse rate 86 a minute and the temperature 98 F. Roentgen examination of the skull showed no fracture of the vault. The patient was promptly taken to the operating room for débridement and reconstruction. Intravenous anesthesia with 2.5 per cent solution of sodium pentothal was administered along with an infusion of isotonic solution of sodium chloride and 300 cc. of citrated whole blood. Further examination showed a deep laceration extending down along the left side of the nose, across the columella and out across the right cheek to a point on a line with the malar prominence. The upper flap gaped, the laceration having extended internally upward to the infraorbital ridges of the maxillary bones, which were fragmented. Both antrums were laid open; the nasal bones, the vomer and the ethmoid plate were comminuted. The inferior and middle conchae were shattered. Three upper incisor teeth were missing; the fourth had been thrust back up into the premaxilla, which, along with the superior alveolar process, was shattered. There was moderate bleeding from a branch of the right facial artery. The parotid duct and main branches of the facial nerve, apparently, were not exposed. Both orbits appeared uninjured, though there was extensive periorbital swelling and hemorrhage. All bony fragments were replaced. The nares were reconstructed with some difficulty over soft rubber tubing. Five Gm. of sulfathiazole powder was sprinkled about the wound prior to closure. Fine chromic catgut was used for buried sutures and number 70 white cotton thread for skin sutures. Petrolatum gauze was inserted into the external nares as packing to control oozing. A prophylactic dose of tetanus antitoxin was administered.

The next morning, twelve hours after admission, the patient regained consciousness, and oral administration of sulfathiazole in doses of 1 Gm. every four hours was begun. The further course of the patient was most gratifying. The highest temperature elevation was to 100.8 F. rectally on the first postoperative day; after forty-eight hours it was normal. The

From the Department of Surgery, Columbia Hospital, Wilkinsburg, Pa.

1. Quinn, E. L., and Jones, C. L.: Carbon Dioxide, New York, Reinhold Publishing Corporation, 1936.
2. Manchester, Harland: Soda Pop Goes to War, Science News Letter **43**: 26 (Jan. 9) 1943.
3. Stout, P. S.: Dry Ice Burn of Throat, Laryngoscope **46**: 922-923 (Dec.) 1936.
4. Som, M. L., and Neffson, A. H.: A New Danger: Aspiration of Carbon Dioxide Snow, J. A. M. A. **108**: 970-971 (March 20) 1937.

petrolatum packs were removed the morning after operation and the soft rubber tubing twenty-four hours later. There was a moderate amount of serosanguineous nasal drainage, never odorous. The nares remained patent. On the sixth day there was a small amount of purulent drainage from a tooth socket. Administration of sulfathiazole was kept up for ten days, a blood level of 3 mg. per hundred cubic centimeters being maintained. Locally sodium perborate in the form of a paste was used in the mouth and a suspension of sulfathiazole in the nose. As the intense periorbital edema subsided it was apparent that the patient had a partial third nerve paralysis as evidenced by diplopia, loss of convergence and partial ptosis of the right lid. Improvement was pronounced, and by the time the patient left the hospital on the seventeenth day after admission convergence was much improved and the ptosis less. In the week following, the diplopia and ptosis cleared; the sense of smell and the sneeze reflex, both of which had been lost, likewise were recovered. When last examined, three months after the accident, both nares were patent and the cosmetic result was satisfactory.

304 Medical Arts Building.

Council on Pharmacy and Chemistry

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.

AUSTIN E. SMITH, M.D., Secretary.

DOSAGE OF VITAMIN PREPARATIONS

At various times the Council has given consideration to excessive and indiscriminate use of vitamin preparations by the general public. There has been no concern over any danger in such usage in doses which the Council would consider for therapeutic recommendation, but it is quite apparent that large numbers of people have been using pharmaceutical preparations of vitamins far in excess of what would be expected to be of real benefit. This first became apparent in considering the large dosages recommended for vitamin A and D preparations when these vitamins became available at a relatively low cost. This prompted the Council to restrict the acceptance of vitamin A and D preparations recommending high dosages of vitamins A and D to preparations advertised only to the physician, and the following statement of policy was adopted:

"Vitamin A and D preparations are accepted with dosages in excess of 10,000 units of vitamin A or 1,000 units of vitamin D if the products are advertised only to the physician and the dosage statement indicates that the dose prescribed provides more than a prophylactic dose of the vitamin."

The Council decided that the principle involved should be applied uniformly to all vitamin preparations and accordingly adopted the following recommendation:

"That acceptable vitamin preparations which supply in each unit (tablet, capsule, etc.) or in the recommended daily intake more than three times the minimum daily requirements set forth in regulations under Sec. 403 (j) of the Food, Drug and Cosmetic Act will be accepted if they are advertised only to the physician."

For the past few years there has been some uncertainty with respect to the type of dosage statement that would meet the requirements of the FDC act for vitamin preparations, particularly those which provided a relatively high dosage. The Council was advised that the statement "Caution: For therapeutic use only, to be used by or on the prescription of a physician" for a thiamine preparation which supplied doses larger than 3 mg. daily would meet the requirements of that act and therefore such a statement has been required. Further consideration has been given to this problem particularly because use of the term "caution" had a connotation which did not seem desirable for vitamin preparations. The Council has received assurance that this caution statement will no longer be required and that the following type of statement is acceptable for thiamine preparations which supply more than 3 mg. per tablet:

"Dose: One tablet daily, or as prescribed by the physician. This dosage is in excess of the quantity needed for prevention of thiamine deficiency."

The Council voted that this type of dosage statement be made applicable to vitamin preparations which supply in each unit (tablet, capsule, etc.) or in the recommended daily intake more than 12,000 units of vitamin A, 1,200 units of vitamin D, 90 mg. of vitamin C, 3 mg. of thiamine hydrochloride, 6 mg. of riboflavin or 30 mg. of nicotinic acid.

The Council has prepared the following suggested label statements to carry into effect the foregoing recommendations. Labels for thiamine hydrochloride are envisaged in the statement given, but it will apply equally well to other vitamin preparations:

STATEMENTS REQUIRED ON MAIN PANEL

FOR PREPARATIONS SUPPLYING MORE THAN THREE TIMES THE MINIMUM DAILY REQUIREMENTS

Quantity of contents:	50 tablets
Common or usual name:	Thiamine Hydrochloride Tablets
Quantity of vitamin in tablets consumed daily.	10 milligrams
Adequate directions for use:	Dose: One tablet daily, or as prescribed by the physician. This dosage is in excess of the quantity needed for prevention of thiamine deficiency.
Name and place of business:	John Doe 550 Broad Street Chicago, Illinois

FOR PREPARATIONS SUPPLYING THREE TIMES THE MINIMUM DAILY REQUIREMENT OR LESS

Quantity of contents:	100 tablets
Common or usual name:	Thiamine Hydrochloride Tablets
Quantity of vitamin in tablets consumed daily.	One milligram
Dose: This is optional	
Proportion of minimum daily requirement:	One tablet will supply the minimum daily requirement for an adult.
Name and place of business:	John Doe 550 Broad Street Chicago, Illinois

Council on Foods and Nutrition

ACCEPTED FOODS

THE FOLLOWING ADDITIONAL FOODS HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO ACCEPTED FOODS.

OFFICE OF THE COUNCIL.

FOODS FOR SPECIAL DIETETIC PURPOSES (*See* Accepted Foods, 1939, p. 295).

PROTEIN SUPPLEMENTARY FOODS

Under certain conditions it is desirable to give a high protein intake to patients, or for other reasons it may be desirable to have available a suitable protein food. Among those products which are available for this purpose are preparations of casein and more recently there have been made available hydrolyzed protein products.

The following product has been found acceptable by the Council:

Arlington Chemical Company, Yonkers, N. Y.

AMINOIDS, PLAIN AND CHOCOLATE FLAVORED, protein food supplements; consists of hydrolyzed-dried powdered beef, wheat gluten, dried skim milk and dried brewers' yeast. Cocoa is added to Chocolate Flavored.

Method of Manufacture.—The ingredients are suspended in water, and the *p*H is adjusted to proper level and digested with natural, proteolytic enzymes. The digest is sterilized by boiling for thirty minutes and the undigested residue filtered off. The filtrate is then concentrated and dried in vacuo. The dried material is tested for total nitrogen by a modified Kjeldahl-Gunning method and for ash by incineration. Based on the test for total nitrogen, the calculated amounts of aminoacetic acid and carbohydrates are added. For Aminoids with chocolate flavor, the proper amount of cocoa is added to give the desired flavor. The whole is then mixed thoroughly, passed through a 16 mesh sieve, and packaged. Samples of each batch of finished product are rechecked for total nitrogen and amino nitrogen.

Analysis (submitted by manufacturer).—*PLAIN*-Amino acids and Polypeptides derived from milk, beef, wheat and yeast equivalent to proteins (N × 6.25) 44.5%, carbohydrates (dextrose, lactose, maltose, sucrose) 43.3%, ash 6.3%, moisture 5.9%.

CHOCOLATE FLAVORED.—Amino acids and Polypeptides derived from milk, beef, wheat and yeast equivalent to protein (N × 6.25) 44.5%, carbohydrates (dextrose, lactose, maltose, sucrose) 35.3%, ash 6.3%, chocolate flavor 8.0%, moisture 5.9%.

Calories.—3.5 per gram, 99.4 per ounce on Aminoids (Plain).

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SATURDAY, JUNE 26, 1943

WAGNER-MURRAY-DINGELL BILL FOR SOCIAL SECURITY

Elsewhere in this issue appears an analysis prepared by the Bureau of Legal Medicine and Legislation of the American Medical Association of the proposed Wagner-Murray-Dingell bill for broadening the American social security program. The Board of Trustees and the newly created Council on Medical Service and Public Relations of the American Medical Association will, no doubt, give careful consideration in the near future to the policy of the Association regarding this specific measure. Arrangements will probably be considered for representation at hearings before the appropriate committees of the Senate and the House. Announcements made by the chairmen of the committees of the Senate and of the House in charge of the bill indicate that this legislation is not likely to come for consideration previously to the next session of Congress. In the meantime physicians should inform themselves concerning its genesis and its objectives.

In its evolution the Wagner-Murray-Dingell bill stems from the National Health Conference of 1937, the Wagner bill which followed that conference, and the report of the National Resources Planning Board. Essentially in its medical aspects it is a compulsory sickness insurance bill and an attempt to translate the proposals of the Social Security Board into a technic of action. Inquiry of reliable sources in Washington indicates the probability that the actual designers and authors of the bill included I. S. Falk, director of the Bureau of Research and Statistics of the Social Security Board of the Federal Security Administration, Mr. Wilbur J. Cohen, technical adviser to the Social Security Board, and Senator Wagner's secretary, Mr. Philip Levy. A statement issued by William Green, president of the American Federation of Labor, says "The measure, which is the most comprehensive attempt yet made to establish postwar security in this country, is the fruit of a five year study by experts on the staff of the American Federation of Labor, which will give the proposed program full sponsorship and support." Inquiry also reveals that, as far as can be determined, representatives of the medical profession, either within or without the government, were not consulted in the development of the medical provisions. Evidence of this failure to consult the medical profession appears in the language of the proposed bill, since it speaks twice of a "spell of sickness." The word "spell," thus employed, does not appear in English dictionaries except as a colloquialism in Webster, and the term is seldom, if ever, used by any one educated in medicine.

A study of the analysis by the Bureau of Legal Medicine and Legislation will reveal to the medical reader the terms of the proposal. Speaking bluntly, however, the measure apparently attempts to avoid the innumerable difficulties involved in developing a government controlled medical service by making the Surgeon General of the Public Health Service, whoever he might be, a virtual "gauleiter" of American medicine. Indeed, it is doubtful if even Nazidom confers on its "gauleiter" Conti the powers which this measure would confer on the Surgeon General of the U. S. Public Health Service. Here are some quotes:

The Surgeon General of the Public Health Service is hereby authorized and directed to take all necessary and practical steps to arrange for the availability of the benefits provided under this title. . . .

. . . The Surgeon General is hereby authorized to negotiate and periodically to renegotiate agreements or cooperative working arrangements with appropriate agencies of the United States, or of any state or political subdivisions thereof, and with other appropriate public agencies, and with private agencies or institutions, and with private persons or groups of persons, to utilize their services and facilities and to pay fair, reasonable and equitable compensation for such services or facilities. . . .

There is hereby established a National Advisory Medical and Hospital Council to consist of the Surgeon General as Chairman and sixteen members to be appointed by the Surgeon General.

The Surgeon General shall publish and otherwise make known in each area to individuals entitled to benefit under this title the names of general practitioners who have agreed to furnish services. . . .

Services which shall be deemed to be specialist services shall be those so designated by the Surgeon General, and the practitioners from among those included in paragraph 1 above who shall be qualified as specialists and entitled to the compensation provided for specialists shall be those so designated by him as qualify to furnish such specialist services. . . .

Payments from the Trust Fund to general practitioners . . . shall be made on the basis of fees for services rendered to individuals entitled to benefits, according to a fee schedule approved by the Surgeon General. . . .

The Surgeon General may prescribe maximum limits to the number of potential beneficiaries for whom a practitioner may undertake to furnish general medical benefit. . . .

The Surgeon General is hereby authorized to establish necessary and sufficient hearing and appeal bodies. . . .

The Surgeon General shall publish a list of institutions found by him to be participating hospitals. . . . Inclusion of an institution upon such list shall, unless and until withdrawn by him, be conclusive. . . .

The Surgeon General and the Social Security Board may . . . determine for any calendar year . . . that every individual entitled to general medical benefit may be required by the physician furnishing such benefit to pay a fee with respect to the first service or with respect to each service in a spell of sickness or course of treatment.

The Surgeon General and the Social Security Board jointly shall have the duty of studying and making recommendations as to the most effective methods of providing dental, nursing and other needed benefits. . . .

The Surgeon General, after consultation with the Social Security Board, and with the approval of the Federal Security Administrator, shall make and publish such rules and regulations . . . necessary to the efficient administration. . . .

The term "laboratory benefit" means such necessary laboratory or related services, supplies or commodities . . . as the Surgeon General may determine, including chemical, bacteriological, pathological, diagnostic and therapeutic x-ray, and related laboratory services, physiotherapy, special appliances prescribed by a physician, and eye glasses prescribed by a physician or other legally qualified practitioner.

With respect to inclusion in the list of participating hospitals the Surgeon General may accredit a hospital for limited varieties of cases and may accredit an institution for the care of the chronic sick. . . .

This list is not all inclusive. There are many other points which space simply does not permit to be included in an editorial.

In offering the bill, its proponents emphasize that it provides for free choice of doctors; free choice of a doctor means, of course, free choice of doctors willing to engage in this type of work.

The proposed measure has already been discussed editorially by such newspapers as the Washington *Star* and the Chicago *Daily News,* both of which pointed out that its passage would accumulate, at least for the present, deductions from many workers' wages of 20 per cent for income tax, 10 to 25 per cent for war bonds, 12 per cent for social security and such other special deductions as are already made in many individual plants. According to these figures there would be a minimum deduction of 42 per cent and a maximum deduction of 57 per cent of the worker's wages. The Chicago *Daily News* said:

We suspect that zeal for social security in the sweet by and by will have a hard time surmounting the shriveled paycheck already here, with the future shrinkage now plainly in sight.

DOCTORS IN CONGRESS

In the Seventy-Eighth Congress of the United States there are seven physicians. They include:

Fred J. Douglas (R.), Utica, N. Y.
Ivor D. Fenton (R.), Mahanoy City, Pa.
Walter H. Judd (R.), Minneapolis.
Joseph L. Pfeifer (D.), Brooklyn.
Frederick C. Smith (R.), Marion, Ohio.
Grant Furlong (D.), Donora, Pa.
Arthur L. Miller (R.), Kimball, Neb.

By the very nature of things, a physician in the Congress should be able to present to the membership of that august body the scientific point of view that is lacking from the education of most of the members, the majority of whom are lawyers. Indeed, with seven physicians holding membership one might anticipate that there would not be any difficulty in getting the medical evidence clearly before the legislators. Nevertheless it would not seem, if we are to believe Dr. Walter H. Judd of Minneapolis, that any such possibility prevails. In a recent communication to *Minnesota Medicine* (June 1943) Congressman Judd says:

There are now seven of us doctors in Congress, by the way. All of us got together, a while back, in the hope of fostering some sort of over-all scheme to take care of the medical situation. We hoped, at least, to be on the inside so as to survey the situation in the hospitals, in the Army and the Navy and Public Health Service and make an over-all plan. But we didn't get anywhere.

The Public Health Service was interested but the Army said nothing doing and the Navy was even more reluctant. Each group wants the men and the power and neither will give way to the others. It is the same with many government agencies in Washington.

In fact, I am convinced that what we need most in Washington is more doctors in government and, above all, more of the kind of mental habits that good doctors must have.

In his statement to the Minnesota State Medical Association Congressman Judd also urged that the medical profession accept responsibility for leadership in medicine in the postwar period. "Certainly," he said, "neither you nor I want the professional philanthropists spinning out the alterations and calling the turn, though that is just exactly what will happen unless we take it over." He felt that medicine might well take the middle course between the "Old Guard," which says that things must stay as they are, and "the radical section that wants to scrap the entire system and start over." Congressman Judd also felt apparently that it was difficult for Congress or the Senate to obtain information concerning medicine. An investigation of the records in the headquarters office of the American Medical Association indicates that heads of practically every governmental agency call at frequent intervals on the American Medical Association in their desire for accurate information regarding medical proposals. The Bureau of Legal Medicine and Legislation and the state medical societies regularly send to their representative in the Congress information regarding pending medical and health legislation. Unfortunately, some members of Congress studiously avoid any attempt to obtain consultation or information, as is indicated elsewhere in this issue in an editorial discussion of the Wagner-Murray-Dingell bill.

The contacts of American medicine in municipal, state and federal government are surrounded in these times with hazardous possibilities. Motivations are constantly questioned. Indeed, in his presidential address to the Minnesota State Medical Association Dr. Stephen H. Baxter pointed out that the activities of the Minnesota State Medical Association in relation to state legislation had recently been questioned by the state senate and "that a resolution was presented to the Senate Committee calling for an investigation of the activities of the representatives of our Association at the Capitol. This resolution was not adopted, but it was widely publicized, and the very fact of its introduction created, in the minds of many people, impressions unfavorable to the Association."

UNITED NATIONS CONFERENCE ON FOOD AND AGRICULTURE

Last month delegates from practically all of the governments opposed to the Axis powers, including representatives from both free and occupied countries, met at Hot Springs, Va. The purpose of the meeting was to further the development of national and international nutrition policy. The meeting was entitled the United Nations Conference on Food and Agriculture. The features of that conference which are of particular interest to the medical profession are summarized in the report of Section I dealing with food and the resolutions adopted by that section and by the recommendations of Section IV embodying the program for continuing and extending the work of the conference, the latter being the overall declaration regarding future procedure in international collaboration.

The most important basic assumptions were matters of general agreement. The evidence for association between faulty diet and ill health is conclusive. Ill health results from insufficient quality or variety of food as well as from deficient quantity. Widespread impairment of human efficiency as well as specific diseases result from malnutrition. There are also special population groups which are particularly vulnerable to the effects of faulty diet: pregnant and nursing women, infants, preschool and school children and adolescents. Certain common diseases such as tuberculosis are directly associated with lowered resistance caused by malnutrition—this in addition to the specific food deficiency diseases. There has never been enough food in the world for the people of the world to eat. The primary factor responsible for this condition is poverty. Improved economic conditions invariably lead to better nutrition; the better health thus effected prepares the way for ameliorating the economic lot.

It is useless, the report points out, to produce more food unless the markets are able to absorb it. It is necessary therefore not only to provide vastly increased quantities of food and in suitable variety but to make foodstuffs available to larger numbers of people by all the various means available. Thus an expansion of a whole world economy is necessary in order to furnish the purchasing power to make the wider distribution of foodstuffs feasible. In order to avoid the charge that this program is purely idealistic without the possibility of practical application, the report specifically recognizes that different peoples have varying tastes and food resources and that innumerable combinations of individual foods may be devised by which the necessary nutrients in suitable quantities can be provided largely within the resources of the local area. This may be facilitated by tables which permit the recommended allowances of specific food substances to be readily translated into foods in common local use. By this means the value of diets commonly consumed by any population group can be compared with such standards and deficiencies readily estimated.

Recognition of the problem culminated in a series of resolutions adopted by the conference. International as well as national action is necessary if food policies based on human requirements are to be adopted throughout the world within a reasonable period of time. The problems of inadequate food consumption and malnutrition are urgent and have been profoundly aggravated by the war. Recognizing the impossibility of immediate or early solution of the nutrition problem, the conference nevertheless recommended that governments adopt as the ultimate goal of their policy dietary standards and allowances based on scientific assessment of the amount and quality of food which promote health and that they distinguish clearly between these standards and the more immediate consumption goals. Among the steps adopted to implement this policy, the conference recommended the immediate establishment of an appropriate "United Nations Food and Agricultural Organization," one of the functions of which would be to institute studies and investigations into food production and consumption throughout the world and to advise and assist governments in carrying out the recommendations of the conference. Further, the several governments represented at the conference should immediately undertake to ascertain the prevalence of specific deficiency diseases among their people, dealing with them by suitable dietary and therapeutic measures, and take appropriate steps to prevent their recurrence. Especially important is the early provision of extra foods for those especially vulnerable elements of the population. Wide public education is necessary. National nutrition organizations in those states in which they do not now exist should be formed. These several national organizations should exchange information and experience and provide mutual assistance both directly when desirable and through the medium of the proposed United Nations Food and Agricultural Organization by the submission of periodic reports. The setting up of regional branches of the United Nations organization in various parts of the world is recommended.

The sound evaluation of basic facts, the common sense differentiation between ultimate goals and immediate or early practicable measures, the setting up of what promises to be a workable international organization and the apparent general agreement of all delegates offers great promise for the gradual improvement of standards of nutrition throughout the world. The support by the medical profession of any sound program to improve general nutrition is a foregone conclusion.

Current Comment

QUININE

Malaria, as THE JOURNAL has frequently emphasized, is probably medical war problem No. 1. The provision of quinine, totaquine, atabrine and other remedies for malaria has been one of the most difficult aspects of the procurement situation. THE JOURNAL has already called attention to efforts that are being made to conserve all available quinine for military purposes, to collect every grain of quinine that could be collected from even retail drug stores and household medicine cabinets and to develop sources of quinine among our South American neighbors. Into this situation suddenly has been tossed a circular issued by the Cinchona Products Institute, Inc., of New York, which represents largely the Dutch interests that controlled cinchona products in Java. This circular, mailed widespread throughout the nation and offered for display in schools, clinics, drugstores and any other public place, urges the American public to get quinine for the treatment of malaria, perhaps self diagnosed. It states that "Quinine comes from the bark of the cinchona tree, a native of South America, but best grown in Java." True, cinchona was apparently best grown in Java previous to Pearl Harbor, but the cinchona grown in Java means nothing now to the campaign against malaria among the forces of the United Nations. Physicians have been requested not to prescribe quinine even for malaria in this country if they can substitute totaquine or other available remedies. Druggists have been requested, indeed forbidden, to fill prescriptions for quinine for any other purpose than the treatment of malaria. Obviously the Cinchona Products Institute, Inc., has rendered no survice in the war situation by the kind of publicity in which it has indulged; rather, its effort has been a disservice. Perhaps any intelligent reader may hazard a guess as to the motivation which stimulated the production of this circular at this time.

EPIDEMIC NAUSEA AND VOMITING

Recently various communities—usually localized—have been affected with a peculiar condition characterized by acute attacks of severe vomiting, generally lasting a few hours only, often involving all the members of a family or group, frequently not associated with other symptoms and with a completely benign outcome. This comparatively trivial disorder, according to Bradley,[1] has become much more common of late in England. Although the disease is of minor significance clinically and economically, it may give rise to considerable administrative uncertainty. Those who are unfamiliar with the clinical and epidemiologic picture may be led to suspect food poisoning and dysentery and be stampeded into ineffectual and wasteful action. It is unusual, Bradley points out, for patients affected with this disorder to call their doctors, since most of them begin to feel better within a few hours. Vomiting is the most characteristic sign, and in young people it tends to be projectile and of great urgency. Usually nausea is present with the vomiting but more characteristically precedes it for a few hours and in some cases persists unaccompanied by emesis. Vertigo, aches and diarrhea are of less frequent occurrence. By simple questioning a number of family outbreaks have been brought to light. Community outbreaks in girls' and boys' boarding schools have occurred and have received some study. Epidemiologic reports as far as available strengthen the impression that the disease is communicable and that the port of entry is the upper respiratory passages. Incubation periods are probably within the range of two to seven days but have not been determined accurately. The possibility that this condition may become more severe cannot be entirely ignored.

1. Bradley, W. H.: Epidemic Nausea and Vomiting, Brit. M. J. **1**: 309 (March 13) 1943

TRANSPLACENTAL FILTRATION OF VITAMIN C

The concentration of vitamin C is higher in fetal blood than in the maternal circulation.[1] Earlier clinicians interpreted this as evidence of the ability of the fetus to synthesize vitamin C. Manahan and Eastman,[2] however, believe that the difference is due to a one way selective filtration of vitamin C through the placenta. This filtration theory has recently been subjected to detailed clinical study by McDevitt and her co-workers[3] of Bunne Bay Cottage Hospital, Norris Point, Newfoundland, on patients encountered in the course of a nutritional survey. There were careful dietary histories before and after delivery. Repeated vitamin C titrations were made of maternal plasmas before delivery and immediately after childbirth, with control determinations of the vitamin C content of blood collected from the umbilical stump. The patients included those on adequate diets as well as several patients with definite vitamin C deficiency. Some of the patients with deficiency had been given vitamin C therapy. The average of all cases (including deficiency cases) was 0.43 mg. of vitamin C per hundred cubic centimeters in maternal plasma before delivery, with an average of 0.53 mg. per hundred cubic centimeters a few hours after delivery. The average cord blood contained 1.24 mg. of vitamin C per hundred cubic centimeters, an amount approaching the zone of vitamin C saturation. The fetal blood titer was as high as 1.90 mg. in patients given antepartum vitamin C saturation tests and as low as 0.33 mg. in certain patients who suffered from prolonged deprivation of vitamin C (maternal plasma titer 0.06 mg. per hundred cubic centimeters). The Newfoundland clinicians emphasize the latter result, since it suggests that latent scurvy of the newborn is a clinical possibility. In all cases in which the maternal blood titer was above 0.33 mg., however, the fetal blood titer was near the vitamin C saturation level (1.30 mg. per hundred cubic centimeters). The physicochemical or cytologic factors responsible for this one way selective placental filtration have not yet been determined. The possibility of a similar selective filtration of other vitamins or of other nutritional factors has also not yet been tested.

1. Baestrup, P. W.: Acta Pædiat. **2**: 328, 1937.
2. Manahan, C. P., and Eastman, N. J.: Bull. Johns Hopkins Hosp. **62**: 478 (May) 1938.
3. McDevitt, Ellen; Dove, M. A.; Dove, R. F., and Wright, I. S.: Proc. Soc. Exper. Biol. & Med. **51**: 289 (Nov.) 1942.

MEDICINE AND THE WAR

In this section of The Journal each week will appear official notices by the Committee on War Participation of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medicine and the war and such other information and announcements as will be useful to the medical profession.

ARMY

DAILY PROGRAM FOR CONVALESCENTS

Under a new program at the Station Hospital at Blackland Army Air Field, Waco, Texas, designed by the medical department of the Army Air Forces (THE JOURNAL, March 27, p. 1096), the soldier-patient follows a daily educational and physical training program which supplements his military knowledge, builds up his strength, and combats boredom, while he awaits recovery. Calisthenics, outdoor and indoor games, classes, training films, review of current news events, prescribed reading and regular work details are given the patients on the road to recovery. All patients are grouped into four classes according to their stage of recovery and each class follows its specific program. Each patient also receives an individual program based on his case.

The original assignment and the speed of progression through the classes are determined for each individual by the doctor in charge of the ward in which he is a patient in consultation with the officer in charge of the reconditioning program at the hospital. By following this plan the exercises are prescribed on a scale graded to approach closely, but never exceed, the individual's tolerance. The program has proved to be popular with patients. A typical daily schedule in addition to the work details is as follows: a five minute review of current news, a thirty minute lecture on a selected subject, a showing of one or more suitable training or recreational films, a minimum of one-half hour prescribed reading and a suitable period of physical exercise or drill.

A weekly schedule of the five daily courses given Monday through Friday is carried out. Four week schedules are prepared in advance suitable for each patient's first, second, third and fourth week of convalescence. The physical exercises are divided into three groups: those suitable for bed patients, ones suitable for ambulatory patients and a program for late convalescents.

During the first week of convalescence the patient is shown films or given lectures on the identification of Japanese aircraft, military courtesy and customs, personal hygiene, individual protection and the identification of U. S. aircraft. The second week he hears and sees training material on the identification of German aircraft, safeguarding military information, care of clothing and equipment, friend or foe, first aid, the care and use of the gas mask and incendiary bombs. The identification of Italian aircraft, interior guard duty, detection of booby traps, proper treatment of gas casualties and jungle warfare are topics taught during the third week. In the last week of the program the soldier is instructed in forced landings, weather, attack aviation, camouflage, map reading, arctic warfare and the motor vehicle driver.

The Army Air Forces Hospital program at Blackland Army Air Field was placed in operation by Lieut. Daniel D. Blum of the Medical Administrative Corps of Jersey City, N. J.

FELLOWS IN AVIATION MEDICINE

The new constitution and by-laws of the Aero Medical Association of the United States provide for the nomination of the initial group of ten fellows and for the election of fifteen additional fellows which shall comprise the first group of fellows of the association. The by-laws adopted last September further provide that all subsequent elections to the grade of fellow shall be by the Group of Fellows, which shall be by selection only from those who have made outstanding contributions to aviation medicine, of whom not more than ten shall be elected in any one year at a meeting of the Group of Fellows just prior or during the annual session of the association.

The following comprise the first group of twenty-five fellows to be elected, together with their present addresses. Colonel Armstrong, Captain Poppen, and Captain Wright are at present outside continental United States and for military reasons their addresses are not given. Dr. Ralph N. Greene, Coral Gables, Fla., was elected a fellow posthumously.

FELLOWS IN AVIATION MEDICINE

Col. Eldridge S. Adams, M. C., Bowman Field, Louisville, Ky.
Capt. J. C. Adams (MC), U.S.N., flight surgeon in charge of Division of Aviation Medicine, Bureau of Medicine and Surgery, Navy Department, Washington, D. C.
Col. Harry G. Armstrong, M. C., U. S. Army.
Dr. Louis H. Bauer, Hempstead, N. Y.
Col. Otis O. Benson Jr., M. C., Materiel Center, Wright Field, Dayton, Ohio.
Dr. Harold R. Bohlman, Baltimore.
Dr. D. S. Brachman, Detroit.
Dr. James C. Braswell, Tulsa, Okla.
Comdr. L. D. Carson, (MC), U.S.N., Navy Department, Washington, D. C.
Dr. J. C. Cole, New Orleans.
Major Herbert F. Fenwick, M. C., Army Air Forces, Miami, Fla.
Dr. Charles H. Gowan, Glendale, Calif.
Brig. Gen. David N. W. Grant, Air Surgeon, War Department, Headquarters Army Air Forces, Washington, D. C.
Dr. A. J. Herbolsheimer, Civil Aeronautics Administration, Washington, D. C.
Major Bernard L. Jarman, M. C., U. S. Army, Washington, D. C.
* Comdr. Eric Liljencrantz (MC), U.S.N., Washington, D. C.
* Major R. F. Longacre, M. C., Los Angeles.
Lieut. Col. W. Randolph Lovelace II, M. C., Materiel Center, Wright Field, Dayton, Ohio.
Dr. Albert M. Mitchell, Terre Haute, Ind.
Capt. John R. Poppen (MC), U.S.N.
Brig. Gen. E. G. Reinartz, A. U. S., Commandant, School of Aviation Medicine, Randolph Field, Texas.
Col. R. Keith Simpson, M. C., Randolph Field, Texas.
Dr. John A. Tamisiea, Omaha.
Col. A. D. Tuttle (Ret.), Chicago.
Capt. Herbert B. Wright, M. C., U. S. Army.

* Deceased.

DR. STRECKER NAMED SPECIAL CONSULTANT IN PSYCHIATRY

Dr. Edward A. Strecker of Philadelphia, president of the American Psychiatric Association, has been named special consultant to the Secretary of War for the Air Forces of the United States Army, according to an announcement by the American Psychiatric Association. He will be on call at all times by the War Department. A month ago Dr. Strecker was named consultant in psychiatry to the Surgeon General of the U. S. Navy. He recently established an intensive training school for naval medical officers in Philadelphia. All the medical and hospital facilities throughout the city are cooperating in this program, three months in length. In the first world war he was division neuropsychiatrist for the Twenty-Eighth Division in France. Dr. Strecker is professor and head of the department of psychiatry at the University of Pennsylvania Graduate School in Philadelphia and the Medical School of the same university. He is chief of service and consultant at the Institute for Mental Hygiene of the Pennsylvania Hospital, consultant for Bryn Mawr College and the United States Veteran's Bureau, and staff neurologist for the Pennsylvania, Philadelphia and Germantown hospitals.

RETURNED FROM GUADALCANAL

In order to give Medical Department officers the benefit of his experience in the South Pacific theater of operations, Lieut. Col. A. H. Thompson, M. C., has become a member of the faculty at the Medical Field Service School, Carlisle Barracks, Pennsylvania. Lieutenant Colonel Thompson had been assistant to the department surgeon in Hawaii before being assigned surgeon of the 25th Division shortly before the attack on Pearl Harbor. The division was ordered to Guadalcanal in November 1942. He tells of the battle of Grassy Knoll in December and of other battles farther to the west. "Improvization was necessary in order to get wounded men back to medical stations where they could be given definitive care." Jungle growth, steep hills and marshy ravines made hand carrying of litters difficult. Some Navy "Stokes" litters were used together with a pulley arrangement, so that wounded men could be brought down a steep hill by means of a cable. Litter bearers in one sector came on three wounded men, one of whom weighed 235 pounds. In shifts twelve litter bearers struggled eight hours to carry that patient through the jungle back to a medical station. In one section the wounded were brought out by water on rafts and boats captured from the Japanese. Speaking of the hospital, Lieutenant Colonel Thompson told of operating lights made of tin cans, the inside being painted with white enamel to give better reflection. The serious casualties later were evacuated from Guadalcanal to New Caledonia. Lieutenant Colonel Thompson said that the natural aptitude of the natives of Guadalcanal made them excellent litter bearers, that Japanese prisoners were grateful for their medical care, and that practically all of them were suffering from malaria, starvation, malnutrition and beriberi. Lieutenant Colonel Thompson is a graduate of the University of Pittsburgh Medical School and of the Army Medical School in the class of 1938-1939.

ARMY AIR FORCES RECEIVE AWARD

The achievement of the U. S. Army Air Forces in training 95 out of every 100 pilots without injury of any kind has been recognized by the National Safety Council, which has bestowed its special wartime award "For Distinguished Service to Safety" on the Army Air Forces.

Col. John Stilwell, president of the Council, said in announcing the award that a study of the figures of the Flight Control Command shows a downward trend in the rate of all army airplane accidents as well as of fatal accidents during the eleven month period from July 1942 to June 1, 1943. Despite the great increase demanded by the war in both the number of hours and in the miles flown in training schools throughout the country, more than 95 per cent of Army Air Forces pilots and student pilots are completing their training period with no personal injury of any kind. Moreover, figures show there has been only one fatal accident for every 1,750,000 miles flown in recent months. This is a remarkable achievement in accident prevention. The citation, which Col. Stilwell will present in Washington to General H. H. Arnold, reads in part as follows: "The National Safety Council believes that the ceaseless efforts of the Flight Control Command to prevent accidents constitute a spectacular fulfilment of America's traditional insistence that the triumphs of war be never achieved at the expense of the ideals of peace."

DISEASE PREVENTION IN NORTH AFRICA

The War Department announced on June 2 that American soldiers in North Africa are almost free of infectious and contagious diseases. Contributing to this result have been the medical department and the engineers and quartermaster corps. One of the most effective forces against the hordes of mosquitoes, the War Department said, has been a new lotion which the soldier rubs on the exposed parts of his body. A single application repels mosquitoes for at least four hundred minutes. Flies and other insects have been fought with a bomblike device which the soldier sets off with a trigger. It contains a spray that kills all flies and insects in an ordinary sized room and yet is harmless to human beings. The elimination of lice is accomplished by a new powder which is sprinkled on clothes. The elaborate apparatus for delousing used in the last war is no longer required. However, as a general rule American troops in Africa have been free of these pests.

MEDICAL REPLACEMENT TRAINING CENTER

Night problems, bivouacs maneuvers and obstacle courses are regular features of the training at the Medical Replacement Training Center at Camp Robinson, Arkansas, all aimed to toughen medical soldiers to enable them to carry on their difficult tasks wherever assigned. From 5:45 a. m. until 5:45 p. m., six days a week, medical trainees are impressed with the importance of their work and with the technical knowledge necessary to carry it out. Brig. Gen. James E. Baylis is in command; the executive officer is Col. Frank S. Matlack; the Plans and Training officer is Col. Robert E. Peyton. The commanders of the medical training regiments and battalions are officers of the medical corps.

DIRECTOR OF NURSING SERVICE IN NORTH AFRICA PROMOTED

The War Department announced on May 20 the promotion of First Lieut. Bernice M. Wilbur, Army Nurse Corps, director of the Nursing Service for the North Africa Theater of Operations, to lieutenant colonel. Colonel Wilbur has departed for her post after a short leave. She returned to the United States with Lieut. Gen. Lesley J. McNair, commanding general, Army Ground Forces, who was wounded while on an inspection trip in North Africa. Colonel Wilbur has been directing the nursing service in the North African theater since last December. Her home is in Boston, where she graduated from the New England Deaconess Hospital.

VOLUNTARY WAR HOSPITAL SERVICES, INC.

Voluntary War Hospital Services, San Francisco, a nonprofit, nonsectarian organization recently incorporated, will continue the work carried on by Mrs. Janet Lindsley since shortly after Pearl Harbor to give wounded men entertainment, to assist in their rehabilitation and to find employment for those permanently injured or disabled. Voluntary War Hospital Services has already furnished a number of solariums at the base hospitals. Convalescents have also received thousands of kits, hundreds of slippers and numerous radios which have been donated.

DR. OSBORNE MISSING

The War Department has informed Mrs. Mildred Osborne of Vicksburg, Mich., that her husband, Capt. Charles E. Osborne, is still reported officially as missing in action. A year ago the War Department reported Dr. Osborne as missing. Captain Osborne was stationed at Base Hospital No. 1 on Bataan at the time the Japanese took that area.

LECTURE ON TROPICAL DISEASES

Dr. Marcos Fernan-Nunez, professor of pathology, Marquette University Medical School, Milwaukee, addressed the combined medical staffs of Army General Hospital No. 17 (Harper Unit) and the Post General Hospital of Camp McCoy, Wisconsin, April 5, on "War Problems in Tropical Diseases."

FLIGHT SURGEONS' ASSISTANTS

A course of instruction to qualify enlisted men as assistants to flight surgeons began at the School of Aviation Medicine in Texas on March 29 and continued for six weeks. About eighty-one sergeants, corporals, technicians of various grades and privates were enrolled in the class.

CIVILIAN DEFENSE

RULES FOR AFFILIATED HOSPITAL UNITS

The Office of Civilian Defense, Washington, D. C., on June 8 issued Circular Medical Series No. 31, which follows (slightly edited):

One hundred and ninety-one hospitals and medical schools have been invited by the Surgeon General of the U. S. Public Health Service to organize affiliated hospital units of the Emergency Medical Service of the U. S. Office of Civilian Defense. The invitation was extended to so large a number of civilian hospitals because each unit will be called on for service only in a war emergency affecting its own region. Units will be activated only in event of a grave military disaster affecting the civilian population or military personnel in the area in which the parent hospital is located. Activation of a unit will take place only on recommendation of the state chief of Emergency Medical Service and the Office of Civilian Defense regional medical officer, subject to certain limitations imposed by the Surgeon General and the chief medical officer of the Office of Civilian Defense and by agreements with the invited hospitals.

The rules governing activation of affiliated units are as follows:

1. Members of the staffs of affiliated units are commissioned in the inactive reserve of the U. S. Public Health Service, generally with the rank of passed assistant surgeon, surgeon or senior surgeon (equivalent respectively to army ranks of captain, major or lieutenant colonel). They will remain on inactive status for the duration of the war unless urgent need for their services should arise in their region because of an air raid or other grave wartime disaster. When activated under such circumstances, these officers will receive the pay and allowances of officers of equivalent grades in the armed forces.

2. The two specific purposes for which a unit may be activated are:

(*a*) For duty in an emergency base hospital to which civilian casualties and other hospitalized patients must be transferred because a community is under enemy attack and one or more of its hospitals must be evacuated.

(*b*) For temporary duty to assist the armed forces at the time of an extraordinary military emergency. The period of emergency assistance is expected to be of short duration and will last only until the Surgeon General of the Army can send in additional medical officers or until he can distribute the excessive load of sick and wounded to military hospitals in other parts of the country. Affiliated units are organized primarily for civilian protection and are not to be used to staff military hospitals as they expand to meet increasing medical requirements of the Army.

3. Affiliated units organized by the Medical Division of the Office of Civilian Defense as part of the Emergency Medical Service of their states will be expected to provide aid only in their own or neighboring states. Their members will not be detached for duty in other parts of the country, nor will they be activated for any other duty except those listed in paragraph 2.

4. A unit organized from the staff of a teaching hospital of a medical school will not be called unless the hospital itself must be evacuated or unless there is no unit from a nonteaching hospital to meet the emergency need.

5. The period of obligation for servi e will cease at the termination of the present national emergency; the Surgeon General will accept resignations of members of units six months after cessation of hostilities.

6. A commission in the inactive reserve of the U. S. Public Health Service does not prevent a member of an affiliated unit from entering the armed forces; resignation will be accepted for this purpose.

7. Members of affiliated units may wear the authorized lapel buttons which indicate that they have enlisted for emergency service. They are not to wear the uniform until called to active service and need not purchase a uniform unless the possibility of active service is imminent. Uniforms will not be required for brief periods of active service.

The organization of such affiliated units has received approval of the Board of Trustees of the American Medical Association, and the directing board of the Procurement and Assignment Service has authorized "essential" physicians to accept positions in affiliated units.

HOW TO PROTECT YOURSELF AGAINST WAR GAS

The Office of Civilian Defense, Washington, D. C., issued on May 15 Operations Letter No. 128, which supersedes Operations Letter No. 46 concerning protection against war gas.

1. Stay indoors. A tightly closed room affords protection against war gas. All windows and doors should be tightly shut, and blankets (to be soaked with water) or cardboard should be kept in readiness to cover and seal shattered windows. Choose a room on an upper floor if possible; most war gases are heavier than air, although they may be carried up with air currents.

2. If caught outdoors in a gas attack, get out of the area at once. Look down and shield your eyes with your arm. Do not worry about any brief vapor exposure to which you may be subjected. The danger from this source is not great.

3. Prompt action will avoid serious effects. If you know or suspect that you have gotten any of the gas on your person or clothing, do not go hunting for a casualty station or gas cleansing station and expect some one else to help you. Knock on the first door you come to, and take whatever steps are necessary. Self aid is the quickest and safest way.

4. This is what you should do. This routine should be memorized so it will be done automatically in an emergency:

(*a*) Remove shoes and outer clothing and drop them outside the house, in a covered can if available. Do not touch this clothing again except with sticks or gas proof gloves. Do not cling to false modesty. To enter a house with contaminated clothing endangers everyone in it.

(*b*) Get to a bathroom, kitchen or laundry room as fast as possible.

(*c*) If your eyes have been exposed to liquid gas or spray, flush them immediately. Plain water out of a faucet, shower head, canteen or douche bag will do, but a lukewarm dilute solution of sodium bicarbonate (heaping tablespoon in a quart of water) is even better, if it is handy. Let any one nearby help you.

(*d*) If drops of liquid blister gas have splashed the skin, you can prevent serious burns by adequate cleansing. Promptly blot up the liquid with pieces of cleansing tissue, cloth or a handkerchief, which should be disposed of carefully in order that it cannot contaminate any one else. Then sponge the skin briskly with laundry bleach containing sodium hypochlorite, if it is at hand, and rinse off under the shower or in a tub. A thorough bath with a vigorous lathering is the final step, which should never be omitted. Dry the skin by patting. Do not rub. Dress in whatever clean clothing you can get. If blisters develop, you should seek medical advice.

(*e*) If your nose and throat feel irritated, snuff and gargle with a dilute solution of sodium bicarbonate. If your chest feels heavy and oppressed, if you have any trouble breathing or if smoking becomes distasteful, lie down immediately and stay perfectly still until you can be taken to a doctor. Do this even if you feel fine otherwise.

5. Remember: Cleanse yourself quickly and calmly. Follow the instructions of your air raid warden.

RECREATION IN WARTIME

With the cooperation of the Office of Defense Health and Welfare Services, the Office of Civilian Defense has published a pamphlet for the use of local defense council committees in the field of civilian war services setting forth the purposes, duties and functions of the recreation committee of the local defense council and suggesting a program of recreation which this committee may help carry out in its particular area.

WAR FOOD ADMINISTRATION—FOOD DISTRIBUTION ADMINISTRATION

RATIONING AND EXPERIMENTAL LABORATORIES

The question of the procedure for obtaining rationed foods for experimental purposes has been raised by a number of research institutions. In order to help those having difficulty in satisfying their needs, the following note has been prepared:

Amendment 18 to General Ration Order Number 5, issued April 24, 1943, states that "On and after May 1, 1943 any use of a rationed food for experimental, educational, testing or demonstration purposes is an industrial and not an institutional use." This amendment lists experimental laboratories as industrial users and therefore requires them to proceed as directed under the institutional and industrial users' sections of the various ration orders.

An industrial user (laboratory) registers, either in person or by mail, with the local board serving the area in which his principal office is located and receives an allotment to enable him to obtain and use foods covered by food rationing orders.

An application for the opening of a new establishment (laboratory) or original application to obtain rationed commodities must be made on OPA form R-315. Such application should be submitted to the local war price and rationing board which serves the area in which the establishment (laboratory) or its principal business office is or will be located. The local board will forward the application with its recommendation and all supporting data to Washington for appropriate action.

An application by an industrial user (laboratory) for allotment of a specific rationed food must be made in the following manner:

Sugar.—If the applicant (laboratory) used sugar in 1941, his allotment will be based on actual usage during that year. He must register on OPA form R-310 and apply for his allotment on R-314. The local board shall take appropriate action.

If the applicant did not use sugar in 1941, his allotment will be granted by the local board in accordance with the ruling received from Washington, where the petition shall be sent by the local board.

Coffee.—A laboratory which uses coffee for experimental purposes is considered a class A industrial user of coffee, i. e. a "person who uses roasted coffee in the preparation of a beverage which he does not serve." He must apply to his local War Price and Rationing Board, which shall determine his monthly allotments.

Processed Foods.—The applicant shall register on OPA form R-1308 and include a record of his historical use of processed foods, on which subsequent allotments will be based.

Meat, Cheese, Butter and Edible Fats and Oils.—The applicant shall register as an industrial user on OPA form R-1605 and include a record of his historical use of foods rationed under ration order 16 and his inventory of such rationed foods as of March 28, 1943. Allotments will be issued accordingly.

Sections 1407.81 to 1407.95 of ration order 3 cover the industrial use of sugar. Sections 1407.1015 to 1407.10175 of ration order 12 cover the industrial use of coffee. Article VI of ration order 13 and amendment 10 to that order cover the industrial use of processed foods. Article VII of ration order 16 covers the industrial use of meats, cheese, butter and the edible fats and oils.

Additional information as to the procedure for obtaining rationed foods for experimental purposes as well as copies of the various rationing orders, amendments and necessary forms may be obtained from local war price and rationing boards.

MISCELLANEOUS

NEW WARTIME NUTRITION CHART

This is the new official wartime nutrition food chart of the national wartime nutrition program. The seven food groups and the slogan "Eat the Basic 7 Every Day" have been adapted to the current food situation. Copies of this chart in six colors will be available about the middle of June.

A folder entitled "The National Wartime Nutrition Food Guide," which will explain the basic seven, will probably be ready for distribution the latter part of July. This folder gives practical suggestions for meeting wartime food shortages without sacrificing good nutrition.

Both the chart and the folder may be obtained without cost from the regional offices of the Food Distribution Administration. The charts will be of interest to both doctors and their patients, and they will find the folder helpful in solving their wartime food problems.

The slogan "U. S. Needs Us Strong—Eat the Basic 7 Every Day" retains the best part of the former slogan "U. S. Needs Us Strong—Every Day Eat This Way" and stresses the basic seven food groups. The circular presentation of the seven food groups emphasizes the fact that all groups are important and avoids putting any one group ahead of the others.

The Nutrition Division of the Office of Defense Health and Welfare Services, Federal Security Agency, is now incorporated in the Department of Agriculture Food Distribution Administration as the Nutrition and Food Conservation Branch.

The state and local nutrition committees previously affiliated with the Nutrition Division will continue their work with the Nutrition and Food Conservation Branch. They will, as in the past, act as the integrating and coordinating agencies for the activities of all groups engaged in improving nutrition. The regional nutritionists with headquarters at the Food Distribu-

For Health...eat some food from each group...every day!
GROUP ONE
GREEN AND YELLOW VEGETABLES...
GROUP TWO
ORANGES, TOMATOES, GRAPEFRUIT...
GROUP THREE
POTATOES AND OTHER VEGETABLES AND FRUITS
GROUP FOUR
MILK AND MILK PRODUCTS...
GROUP FIVE
MEAT, POULTRY, FISH, OR EGGS...
GROUP SIX
BREAD, FLOUR, AND CEREALS...
GROUP SEVEN
BUTTER AND FORTIFIED MARGARINE
U.S. NEEDS US STRONG
EAT THE BASIC 7 EVERY DAY
U.S. GOVERNMENT CHART
IN ADDITION TO THE BASIC 7... EAT ANY OTHER FOODS YOU WANT

New official wartime nutrition chart.

tion Administration regional offices will continue to work with state and local nutrition committees.

The program of the Nutrition and Food Conservation Branch includes:

1. A nationwide educational program on all phases of good nutrition geared to the wartime food situation and including (*a*) efficient utilization of available foods, shown by food demonstrations, (*b*) conservation of the physical volume and nutritive value of food, from production point to table, and (*c*) food preservation program covering methods of home and community canning.

2. Support of community nutrition programs such as school lunch programs.

3. Guidance and assistance with in-plant feeding projects for industrial workers.

4. Assistance to state and local health departments, in cooperation with the United States Public Health Service, in planning and carrying out public health nutrition programs which are closely tied in with the activities of the local nutrition committees.

Location of regional offices of the Food Distribution Administration:

REGION	ADDRESS	STATES INCLUDED
Northeast	150 Broadway, New York	Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Jersey, New Hampshire, New York, Pennsylvania, Rhode Island, Vermont, West Virginia
Southern	Western Union Building, Marietta & Forsyth streets, Atlanta, Ga.	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia
Southwest	425 Wilson Building, Dallas, Texas	Arkansas, Oklahoma, Texas, Louisiana
Rocky Mountain	Burns Vault Building, 1536 Welton Street, Denver	Colorado, Idaho, Montana, New Mexico, Utah, Wyoming
Pacific	821 Market Street, San Francisco	Arizona, California, Nevada, Oregon, Washington
Midwest	Old Colony Building, Grand Avenue at West Tenth Street, Des Moines, Iowa	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
Great Lakes	5 Wabash Avenue, Chicago	Illinois, Indiana, Ohio, Michigan, Wisconsin

WARTIME GRADUATE MEDICAL MEETINGS

Further progress in the organization of the series of Wartime Graduate Medical Meetings, discussed previously in THE JOURNAL (April 24, p. 1399; May 1, p. 45; June 5, p. 382), has now been reported.

ORGANIZATION

Twenty-four Regional Committees have been set up as follows:

Maine, New Hampshire, Vermont, Massachusetts: Dr. Chester S. Keefer, Boston, chairman.
Connecticut, Rhode Island: Dr. Creighton Barker, New Haven, chairman.
New York: Dr. Oswald R. Jones, New York, chairman.
Eastern Pennsylvania, Delaware, New Jersey: Dr. Eugene P. Pendergrass, Philadelphia, Chairman.
Maryland, District of Columbia, Virginia, West Virginia: Dr. James Alexander Lyon, Washington, chairman.
North Carolina, South Carolina: Dr. Wingate M. Johnson, Winston-Salem, chairman.
Georgia, Florida: Dr. Turner Z. Cason, Jacksonville, chairman.
Western Pennsylvania, Ohio: Dr. Charles A. Doan, Columbus, chairman.
Michigan: Dr. J. Milton Robb, Detroit, chairman.
Kentucky, Tennessee: Dr. Elmer L. Henderson, Louisville, chairman.
Alabama, Mississippi: Dr. James M. Mason, Birmingham, chairman.
Louisiana: Dr. John H. Musser, New Orleans, chairman.
Texas: Dr. Albert O. Singleton, Galveston, chairman.
Indiana, Illinois, Wisconsin: Dr. LeRoy H. Sloan, Chicago, chairman.
Minnesota, Iowa: Dr. William A. O'Brien, Minneapolis, chairman.
Missouri, Kansas, Arkansas, Oklahoma: Dr. Frank D. Dickson, Kansas City, Mo., chairman.
North Dakota, South Dakota, Nebraska: Dr. Angus L. Cameron, Minot, N. D., chairman.
Montana, Wyoming: Dr. Ernest D. Hitchcock, Great Falls, Mont., chairman.
Colorado, Utah: Dr. James J. Waring, Denver, chairman.
New Mexico, Arizona: Dr. Carl Mulky, Albuquerque, chairman.
Washington: Dr. John H. O'Shea, Spokane, chairman.
Idaho, Oregon: Dr. John H. Fitzgibbon, Portland, chairman.
Nevada, northern California: Dr. Ernest H. Falconer, San Francisco, chairman.
Southern California: Dr. Roy E. Thomas, Los Angeles, chairman.

SYRACUSE UNIVERSITY COLLEGE OF MEDICINE ARRANGES COURSES

Ward walks, clinics, practical demonstrations, moving pictures and conferences for physicians in the armed services have been arranged by the Syracuse University College of Medicine, Syracuse, N. Y., under the program of Wartime Graduate Medical Meetings. This instruction is available in Syracuse and vicinity and includes lectures at the College of Medicine and the teaching hospitals, and combinations of lectures with clinics, conferences and demonstrations. Teaching will be given in both afternoon and evening sessions. Teams of two or more teachers will hold sessions at camps or hospitals in nearby areas. Efforts will be made to provide instruction in those fields for which requests are received. A tentative list of subjects and teachers has already been set up and includes the following:

Allergy: Ershler, Marty, Wiseman.
Anatomy: Armstrong.
Bacteriology: Chapman, Mueller.
Bronchoesophagology: Blaisdell, Rubenstein.
Burns: George Reed, Sutton.
Chemotherapy: Ernest Delmonico, Dooley, Ershler, Hughes, Laurie, Post, Silverman, Sutton.
Dermatology: Griggs.
Ear, Nose and Throat Diseases: Blaisdell, Brown, Cave, Kauffman, O'Connor, Moore, Rubenstein.
Exanthems: Silverman.
Eye Diseases: Gillette, Joy, Marlow.
Genitourinary Diseases: Gibson, Laurie.
Gynecology: Chester Clark, Sears.
Hematology: Anemias and Leukemias: Paul Clark, Curtis, Groat, Marty.
Immunology: Chapman, Mueller.
Industrial Health: Brewer, Fairchild, Griggs, Hyman.
Malignant Disease: Childs, Ferguson, Griggs, O'Connor, George Reed, E. C. Reifenstein, George Reifenstein, Wetherell.
Medical Aspects of Chemical Warfare: Artz, Ferguson, Gillette, George Reed, George Reifenstein, Yeckel.
Medicine, General, Acute Infectious Diseases: Bailey, Paul Clark, Curtis, Mack, McNerney.
Arteriosclerosis and Aging: E. Curtis, E. C. Reifenstein.
Arthritis: Bailey.
Cardiology: Paul Clark, Hiss, Street.
Cardiovascular Diseases: Ershler, McNerney, Post, E. C. Reifenstein.
Gastroenterology: Cooney, Laus, Yeckel.
Kidney Diseases: Levinson.
Metabolic Diseases: Brewer, Groat, Laus, Yeckel.
Pulmonary Diseases (Nontuberculous): Post, McNerney, E. C. Reifenstein, Wiseman.
Meningitis: Bailey, Chapman, Paul Clark, Silverman.
Neurology: Boudreau.
Nutrition: Brewer, Groat, Knowlton.
Obstetrics: Hughes, Irving, Pieri.
Orthopedics: Severance, Vosburgh.
Parasitology: Chapman, Levinson, Mueller.
Pathology: Ferguson, George Reifenstein.
Pharmacology: Dooley, Ershler.
Plasma Therapy and Blood Transfusion: Paul Clark, Marty, Ernest Delmonico.
Psychiatry: Boudreau, Brewer, Chambers, Fleiss, Haviland, Siewers, Steckel.
Radiology: Childs, Needham.
Rheumatic Fever; Rheumatic Heart Disease: B. C. Doust, Hiss.
Surgery, Abdominal: George Reed, Swift.
Surgery, Fractures: Severance, Vosburgh.
Surgery, General: George Reed, Swift.
Surgery, Infections: Sutton.
Surgery, Reconstructive: Severance, Sutton.
Surgery, Thoracic: Wetherell.
Surgery, Traumatic: Leonard Acquilino, John Van Duyn.
Syphilis: Chapman, Group, Laurie, Steckel.
Tropical Diseases: Chapman, Levinson, Mueller.
Tuberculosis: Bogardus, Johnson.

Information on these programs can be obtained from Dr. Herman G. Weiskotten, Dean, Syracuse University College of Medicine, 766 Irving Avenue, Syracuse, N. Y.

ORGANIZATION SECTION

THE WAGNER-MURRAY-DINGELL SOCIAL SECURITY PLAN

An Analysis Prepared by the Bureau of Legal Medicine and Legislation, American Medical Association, June 16, 1943

Referred to generally as embodying an Americanized Beveridge plan but offered in Congress, according to Senator Wagner, "simply as a basis for legislative study and consideration," legislation was introduced, June 3, in the Senate by Senator Wagner, New York, for himself and Senator Murray, Montana, and in the House by Representative Dingell, Michigan, proposing to create a Unified National Social Insurance System (S. 1161; H. R. 2861). The Senate bill is pending in the Senate Committee on Finance and the House bill on the House Committee on Ways and Means.

The system proposed to be created will be financed in general from a trust fund established by a 6 per cent employee and a 6 per cent employer contribution on all wages and salaries, up to the first $3,000 a year, paid or received after Dec. 31, 1943. Included in this proposed system will be a system of public employment offices, increased old age and survivors' insurance benefits, temporary and permanent disability insurance benefits, protection to individuals in the military service, increased unemployment insurance benefits under a federalized unemployment system, maternity benefits, medical and hospitalization insurance benefits, a broadening of the basis of the existing social security program to embrace some 15,000,000 persons now excluded, such as farm workers and domestic servants, employees of nonprofit institutions, independent farmers, members of the professions and other self-employed individuals, and a unified public assistance program. There follows an analysis of those provisions of the ninety page bill that appear to be of particular concern to medicine.

DISABILITY BENEFITS PLUS MEDICAL CARE

The bill broadens the existing social security coverage by providing for the payment of cash permanent disability benefits to beneficiaries. In addition to such cash benefits, the Social Security Board, through the Surgeon General of the Public Health Service, will be authorized to make provision for furnishing medical, surgical, institutional, rehabilitation or other services to disabled individuals entitled to receive insurance benefits, if such services will aid in enabling such individuals to return to gainful work. Such services, it is contemplated, will be furnished "by qualified practitioners and through governmental and nongovernmental hospitals and other institutions qualified to furnish such services." In administering the provisions of this particular section of the bill, the Surgeon General and the Social Security Board will follow as far as applicable the procedure outlined by another section of the bill relating to medical, hospitalization and related benefits generally.

MEDICAL, HOSPITALIZATION AND RELATED BENEFITS IN GENERAL

Section 11 of the bill proposes to add a new title to the Social Security Act, title IX, providing for a federal system of compulsory medical and hospitalization insurance for all persons covered under the old age and survivors' insurance, and their dependents. Each insured worker and his dependent wife and children will be entitled to receive general medical, special medical, laboratory and hospitalization benefits. In addition, the system is made elastic so that it may be enlarged in its coverage to admit other beneficiaries on a voluntary basis, such as self-employed individuals and employees of states and political subdivisions.

In order to appreciate the broad scope of this new title, consideration must initially be given to the meaning of the words and phrases used in it. The term "general medical benefit" means services furnished by a legally qualified physician, including all necessary services such as can be furnished by a physician engaged in the general practice of medicine, at the office, home, hospital or elsewhere, including preventive, diagnostic and therapeutic treatment and care, and periodic physical examinations.

The term "special medical benefit" means necessary services requiring special skill or experience, furnished at the office, home, hospital or elsewhere by a legally qualified physician who is a specialist with respect to the class of service furnished.

The term "laboratory benefit" means such necessary laboratory or related services, supplies or commodities, not provided to a hospitalized patient and not included as a part of the general or special medical benefit, as the Surgeon General of the United States Public Health Service may determine, including chemical, bacteriologic, pathologic, diagnostic and therapeutic x-ray and related laboratory services, physical therapy, special appliances prescribed by a physician, and eye glasses prescribed by a physician "or other legally qualified practitioner."

The term "hospitalization benefit" means (1) not less than $3 and not more than $6 for each day of hospitalization, not in excess of thirty days, which an individual has had in a period of hospitalization; (2) not less than $1.50 and not more than $4 for each day of hospitalization in excess of thirty in a period of hospitalization; and (3) not less than $1.50 and not more than $3 for each day of care in an institution for the care of persons suffering from chronic ailments. The exact amount of the benefit, between the minimums and maximums stated, will be fixed by the Surgeon General of the Public Health Service after consultation with the National Advisory Medical and Hospital Council to be created by the bill and after approval by the Social Security Board. In lieu of such compensation, the Surgeon General may, after approval of the Social Security Board, enter into contracts with participating hospitals for the payment of the reasonable cost of hospital service, at rates for each day of hospitalization neither less than the minimum nor more than the maximum applicable rates previously mentioned. Such payments will constitute full reimbursement, the bill provides, for the cost of essential hospital services, including the use of ward or "other least expensive facilities compatible with the proper care of the patient."

PANEL OF PHYSICIANS TO SUPPLY MEDICAL CARE

The Surgeon General will be required to publish and otherwise make known in each area to individuals entitled to benefits the names of general practitioners who have signified their willingness or desire to participate in the insurance program.

Any legally qualified physician may so participate. A beneficiary may select any physician appearing on the panel to treat him subject to the consent of the physician selected, and may change such selection in accordance with such rules and regulations as may be prescribed. The Surgeon General may set maximum limits to the number of potential beneficiaries for whom a general practitioner may undertake to furnish medical benefits. Such limits may be nationally uniform or may be adapted to take account of "relevant factors."

The services of specialists will ordinarily be available only on the advice of the general practitioner. The Surgeon General will determine what constitutes specialist services and will also determine the qualifications of physicians as specialists "in accordance with general standards previously prescribed by him after consultation with the council and utilizing standards and certifications developed by competent professional agencies."

PAYMENTS FOR THE SERVICES OF PHYSICIANS

Payments to general practitioners may be made (1) on the basis of fees for services rendered, according to a fee schedule approved by the Surgeon General; or (2) on a per capita basis, the amount being according to the number of individuals entitled to benefits who are on the practitioner's list; or (3) on a salary basis, whole or part time; or (4) on a combination or modification of these bases. The method of payment, subject to the approval of the Surgeon General, will apparently be determined in each area in accordance with the desires of a majority of the general practitioners collaborating with the insurance program.

Payments to designated specialists may include payments on salary (whole time or part time), "per session," fee for service, per capita, or other basis, or combinations thereof. Apparently the method of payment to be adopted for specialists will be determined by the Surgeon General.

Payments for medical services may be nationally uniform or may be adapted to take account of "relevant factors." In any area where payment for the services of a general practitioner is on a per capita basis, the bill provides that the Surgeon General shall distribute on a pro rata basis among the practitioners of the area on the panel those individuals in the area who, after due notice, have failed to select a general practitioner or who, having made a selection, have been refused by the practitioner.

The bill provides that in each area the provision of general medical benefit for all individuals entitled to receive such benefit "shall be a collective responsibility of all qualified general practitioners in the area who have undertaken to furnish such benefit."

LIMITATIONS ON GENERAL MEDICAL AND LABORATORY BENEFIT

The Surgeon General and the Social Security Board may determine for any calendar year or part thereof that every individual entitled to general medical benefit may be required by the physician attending him to pay a fee with respect to the first service or with respect to each service in a "spell of sickness" or course of treatment if it is believed that such a determination is necessary and desirable to prevent or reduce abuses of entitlement to such benefits. Maximum size of such fee may be fixed by the Surgeon General and the Social Security Board at an amount estimated to be sufficient to prevent or reduce abuses and not such as to impose a substantial financial restraint against proper and needed receipt of medical benefit. Likewise the Surgeon General and the Social Security Board may limit the application of such fees to home calls, office visits or both.

PARTICIPATING HOSPITALS

For a hospital to participate in this insurance program, it must have been approved by the Surgeon General under standards prescribed by him after consultation with the council. A hospital to be approved must provide all necessary and customary hospital services and must be found to afford professional service, personnel and equipment adequate to promote the health and safety of individuals customarily hospitalized in such institution. The Surgeon General may approve or accredit a hospital for limited varieties of cases and may accredit an institution for the care of the "chronic sick." In determining the adequacy of the professional service, personnel and equipment of any such institution, the Surgeon General may take into account the purpose of such limited accrediting, the type and size of community which the institution serves, the availability of other hospital facilities, and such other matters as he may deem relevant.

APPLICATION FOR AND LIMITATION OF HOSPITALIZATION BENEFITS

No application by an individual for hospitalization benefits will be valid with respect to any day of hospitalization if the application is filed more than ninety days after such day, or with respect to any day of hospitalization for mental or nervous disease or for tuberculosis after such diagnosis has been made. The maximum number of days in any benefit year for which any individual may be entitled to hospitalization benefit will be thirty. If, however, the funds in the special hospitalization benefit account fund to be created prove adequate, the maximum number of days may be increased to ninety by the Surgeon General and the Social Security Board, acting jointly.

PROPOSED METHOD OF ADMINISTRATION

The Surgeon General of the Public Health Service will be authorized to take all necessary and practical steps to arrange for the availability of the medical, hospitalization and related benefits. He will be authorized to negotiate and periodically to renegotiate agreements or cooperative working arrangements with appropriate agencies of the United States, or of any state or political subdivision thereof, and with other appropriate public agencies, and with private agencies or institutions, and with private persons or groups of persons, to utilize their services and facilities and to pay fair, reasonable and equitable compensation therefor.

The methods of administration, including the methods of payment to practitioners, the bill provides, shall (1) insure the prompt and efficient care of individuals entitled to benefits; (2) promote personal relationships between physician and patient; (3) provide professional and financial incentives for the professional advancement of practitioners and encourage high standards in the quality of services furnished as benefits through the adequacy of payments to practitioners, assistance in their use of opportunities for postgraduate study, coordination among the services furnished by general practitioners, specialists, laboratory and other auxiliary services, coordination among the services furnished by practitioners, hospitals, health centers, educational, research and other institutions, and between preventive and curative services, and otherwise; (4) aid in the prevention of disease, disability and premature death, and (5) insure the provision of adequate service with the greatest economy consistent with high standards of quality.

NATIONAL ADVISORY MEDICAL AND HOSPITAL COUNCIL

The bill proposes the creation of a National Advisory Medical and Hospital Council, to consist of the Surgeon General of the United States Public Health Service as chairman and sixteen members appointed by him. The appointed members will be selected from panels of names submitted by the professional and other agencies and organizations concerned with medical services and education and with the operation of hospitals and from among other persons, agencies or organizations informed on the need for or provision of medical, hospital or related services and benefits. Appointed members will hold

office for four years, with the terms of office staggered. The appointed members will receive compensation at the rate of $25 a day for time spent on official business of the council, and actual and necessary traveling expenses and per diem in lieu of subsistence.

This council will "advise" the Surgeon General as to (1) professional standards of quality to apply to general and special medical benefits; (2) designation of specialists; (3) methods and arrangements to stimulate and encourage the attainment of high standards through coordination of the services of general practitioners, specialists, laboratories and other auxiliary services, and through the coordination of the services of practitioners with those of educational and research institutions, hospitals and health centers, and through other useful means; (4) standards to apply to participating hospitals and to establishment and maintenance of the list of participating hospitals; (5) adequate and suitable methods and arrangements of paying for medical and hospital services; (6) studies and surveys of the services furnished by practitioners and hospitals and of the quality and adequacy of such services; (7) grants-in-aid for professional education and research projects, and (8) establishment of special advisory, technical, local or regional boards, committees, or commissions.

RELATION TO WORKMEN'S COMPENSATION ACTS

The benefits provided by this bill will not be available with respect to an injury, disease or disability coming within the purview of any state or federal workmen's compensation act.

DENTAL, NURSING AND OTHER BENEFITS

The bill devolves on the Surgeon General and the Social Security Board jointly the duty of ascertaining the most effective methods of providing dental, nursing and other needed benefits not contained in the pending bill and of determining the expected costs of such additional benefits. The bill contemplates that the Surgeon General and the Social Security Board will report the results of their findings, with recommendations as to legislation, not later than Jan. 1, 1946.

GRANTS-IN-AID FOR MEDICAL EDUCATION, RESEARCH AND PREVENTION OF DISEASE AND DISABILITY

The Surgeon General will be authorized to administer grants-in-aid to nonprofit institutions and agencies engaging in research or in undergraduate or postgraduate professional education. The purpose of these grants will be to encourage and aid the advancement and dissemination of knowledge and skill in providing benefits and in preventing illness, disability and premature death. Such grants-in-aid will be made with respect to each project (1) for which application has been received from a nonprofit institution or agency, stating the nature of the project and giving the reasons for the need of financial assistance in carrying it out, and (2) for which the Surgeon General finds, with the advice of the council, that the project shows promise of making valuable contributions to the education or training of persons useful to or needed in the furnishing of medical, hospital, disability, rehabilitation and related benefits or to human knowledge with respect to the cause, prevention, mitigation or methods of diagnosis and treatment of disease and disability.

This part of the program will be financed by setting aside a certain percentage of amounts expended for benefits from the Federal Social Insurance Trust Fund to be created by the bill. The amount to be set aside will equal 1 per cent of the total amount expended for benefits from the trust fund, exclusive of unemployment insurance benefits, or 2 per cent of the amount expended for benefits under title IX (relating to federal medical, hospitalization and related benefits), after benefits under that title have been payable for not less than twelve months, whichever is the lesser, in the last preceding fiscal year. The bill apparently leaves all the details with respect to these grants-in-aid to regulations to be promulgated by the Surgeon General after consultation with the council.

SELF-EMPLOYED INDIVIDUALS

Self-employed individuals may receive the benefits of the old age, survivors, and permanent disability and medical and hospital insurance by paying into the Trust Fund an amount equal to 7 per cent of the market value of their services rendered as self-employed individuals, after Dec. 31, 1943, with respect to services in self employment after that date, but not including that part of any remuneration for employment and the market value of services in self employment in excess of $3,000 for any calendar year.

EMPLOYEES OF STATES AND LOCAL SUBDIVISIONS

The bill authorizes the Social Security Board to enter into compacts with individual states or with political subdivisions for the purpose of extending old age, survivors, and permanent disability and medical and hospitalization insurance coverage to employees of such states or political subdivisions. To finance the benefits to be provided under such compacts, the bill requires such employer to pay a social security contribution equal to 3.5 per cent of the wages paid by it after Dec. 31, 1943 and every individual beneficiary of such a compact a contribution equal to 3.5 per cent of the wages received by him after Dec. 31, 1943, excluding any amount paid or received in excess of $3,000 during any calendar year after Dec. 31, 1943.

BILL AS VIEWED BY SENATOR WAGNER

On the floor of the Senate, June 3, Senator Wagner described the overall objectives of his bill as follows:

> The bill establishes a nationwide system of public employment offices, to help war workers and war veterans to avail themselves of job opportunities, in private industry and on farms, throughout the country. It covers broadly the major economic hazards of average American families —the cost of medical and hospital care, and loss of income in time of unemployment, temporary sickness, permanent disability and old age. It improves the present old age insurance system and extends coverage to 15,000,000 persons now excluded, such as farm workers and domestic servants, employees of nonprofit institutions and the independent farmer, professional and small businessman. All these changes are established under a unified national system of social insurance, with one set of contributions, one set of records and reports and one set of local offices. Reinforcing the job guaranty in the Selective Service Act, the bill gives the returning veteran and his family paid-up benefit rights in every phase of this insurance protection. And, finally, the bill sets up an improved, unified system for grants-in-aid to the states for public assistance, on a variable matching basis, in place of the rigid categories under present law.

PROSPECT OF SENATE CONSIDERATION OF THE BILL

Senator Walter F. George, chairman of the Senate Committee on Finance before which S. 1161 is pending, has been quoted as saying that his committee cannot possibly undertake to give consideration to the bill until late in the present session of the Congress and that if that consideration is given, and if favorable action is taken by the committee, the measure will not reach the floor of the Senate until next year.

OFFICIAL NOTES

SUMMER HEALTH HINTS

The next three programs for the new series of broadcasts over WLS on Thursdays at 2:45 p. m. under the title "Summer Health Hints" will be as follows:

July 1. "Heat and Sun."
July 8. "Insects."
July 15. "Poison Oak or Ivy."

PROCEEDINGS OF THE CHICAGO SESSION

MINUTES OF THE ANNUAL SESSION OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION, HELD IN CHICAGO, JUNE 7-9, 1943

HOUSE OF DELEGATES

Second Meeting—Tuesday Morning, June 8

The House of Delegates was called to order at 9:30 a. m. by the Speaker, Dr. H. H. Shoulders.

Roll Call

On motion of Dr. Allen H. Bunce, Georgia, seconded by Dr. Arthur T. McCormack, Kentucky, and carried, the House dispensed with the roll call.

Presentation of Minutes

Dr. J. Newton Hunsberger, Pennsylvania, moved that the House dispense with the reading of the minutes. The motion was seconded by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, and carried.

Report of Reference Committee on Credentials

Dr. G. Henry Mundt, Chairman, reported that one hundred and seventy members of the House of Delegates had been registered. All states, all sections and the three government services have complete registration. The only delegates who are not in attendance are those from Alaska, the Isthmian Canal Zone, the Philippines and Puerto Rico.

Report of Reference Committee on Medical Education

Dr. Wilburt C. Davison, Chairman, presented the following report, which, on motions, duly seconded and carried, was adopted section by section and as a whole:

I. The Reference Committee on Medical Education approved the following proposals:

1. Resolution on Technical X-Ray Training Courses, introduced by Dr. E. H. Skinner, Section on Radiology.

2. The changes in the Essentials of an Acceptable School for Clinical Laboratory Technicians, suggested in the supplementary report of the Council on Medical Education and Hospitals.

3. The Essentials of an Acceptable School for Physical Therapy Technicians, as presented in the supplementary report of the Council on Medical Education and Hospitals. These essentials have been completely revised in the supplementary report.

4. The Essentials of an Acceptable School of Occupational Therapy, as presented in the supplementary report of the Council on Medical Education and Hospitals. These essentials have been completely revised in the supplementary report.

5. Essentials of an Acceptable School for Medical Record Librarians, which were prepared by the Council on Medical Education and Hospitals in accordance with the request of the Board of Trustees, which had had referred to it a request from the House of Delegates at the Atlantic City session that the American Medical Association inspect and approve or disapprove present and future schools for the training of medical record librarians. These essentials as prepared by the Council on Medical Education and Hospitals are contained in the supplementary report of that Council.

6. The report of the Council on Medical Education and Hospitals, section by section and as a whole, as contained in the Handbook.

II. Resolution Requesting Study of Nursing Licensure Requirements: Your reference committee, although sympathetic with the Resolution Requesting Study of Nursing Licensure Requirements, introduced by Dr. Stephen E. Gavin, Wisconsin, does not approve the resolution because it does not fall within the jurisdiction of the American Medical Association.

Respectfully submitted,

WILBURT C. DAVISON, Chairman.
WALTER G. PHIPPEN.
ROBERT E. SCHLUETER.
CHARLES H. PHIFER.
LEON J. MENVILLE.

Report of Reference Committee on Hygiene and Public Health

Dr. Warren F. Draper, Chairman, presented the following report, which, on motions duly seconded and carried, was adopted section by section and as a whole:

1. Resolutions on Giving Intelligent Instruction in Science and Biology to the Youth of America: With the consent of Dr. Borzell, the committee made certain changes in the resolutions, which now read as follows:

WHEREAS, The appropriate teaching in the secondary schools of science, including biology, is essential to the child's understanding of health and nutrition; and

WHEREAS, The medical profession is vitally interested in such education; therefore be it

Resolved, That the American Medical Association endorse the principle that every child in the United States be given adequate, sound instruction in high school in basic science including at least one year of biology; and be it further

Resolved, That the American Medical Association through its Bureau of Health Education encourage close cooperation between the constituent state medical associations and component county medical societies and the teachers of science in their respective communities to the end that intelligent instruction in science and biology be given the youth of America.

Your reference committee has been informed that national organizations which have already endorsed this principle are the American Association of Physics Teachers, American Chemical Society, Mathematical Association of America, Union of American Biological Societies and National Association for Research in Science Teaching.

The importance of real health education of the proper type in the schools has been forcibly demonstrated by the results of the physical examinations for the draft boards.

Teaching such as indicated is a fundamental necessity for the proper understanding of the elements of health and physical well being.

A sound educational basis in the sciences will help to sensitize the student to pseudoscientific claims, cultism and quackery.

Your reference committee has ascertained that the resolutions are practicable from the standpoint of the Bureau of Health Education and recommends their adoption as now presented.

2. Report of Bureau of Health Education as presented in the Handbook, pages 70 to 77: Your reference committee commends the Bureau of Health Education on its accomplishments under the trying conditions of the present time.

It is interesting to note that the travel of the director has necessarily been greatly curtailed and that the Bureau has turned to the radio to carry on much of the work that needs to be done. Direct broadcasts are made in some instances, and recordings are also developed. Master records are made with ten recordings of each. These are sent out to constituent state medical associations and component county medical societies and may be used on the air at their convenience.

The adaptation of the radio program to cover the war work of doctors is especially commended. In the opinion of your reference committee, the results of this program are of definite value and its development should continue.

3. Report of Council on Industrial Health as presented in the Handbook, pages 65-70: Your reference committee notes with especial satisfaction the work of the Council in developing a plan for the recruitment and placement of medical volunteers for service in essential war industry. The committees on industrial health of constituent state medical associations can be of great assistance to the chairmen and state committees of procurement and assignment of physicians in furnishing medical service in industry.

This is one of the younger councils, which, because of the character and excellence of the work that it is doing, is making itself felt and is becoming increasingly important.

Respectfully submitted,

WARREN F. DRAPER, Chairman.
HOLMAN TAYLOR.
DON F. CAMERON.
RANSOM D. BERNARD.
WALTER W. KING.

Report of Reference Committee on Miscellaneous Business

Dr. Charles G. Strickland, Chairman, presented the following repart, which, on motions duly seconded and carried after discussion, was adopted section by section and as a whole:

1. Resolution on Having Copies of the Boy and Girl Scouts' Manual in Physicians' Waiting Rooms, approved by the Louisiana State Medical Society and introduced by Dr. James Q. Graves, Louisiana: Your reference committee recommends the rejection of this resolution. The boy scouts and the girl scouts are both worthwhile organizations, and their value in youth training and in character building is unquestioned. Nevertheless, your reference committee hesitates to recommend favorable action on this resolution, since other worthy organizations may request similar action on their literature and once the precedent is set the flood gates are open. The choice of waiting room reading can be left safely to the judgment of the individual physician and the taste of his clientele.

2. Resolution Requesting Constituent Associations and Component Societies to Consider the Establishment of Some Form of Dues for Their Members in Service, introduced by Dr. James C. Sargent, Wisconsin: Your reference committee desires to express its high appreciation of the motives which actuated the introduction of this resolution. The line of reasoning used does Dr. Sargent great credit. However, for many reasons, too obvious to detail, your reference committee recommends that this resolution be rejected.

Respectfully submitted,

CHARLES G. STRICKLAND, Chairman.
ALBERT A. GARTNER.
H. A. LUCE.
JAMES W. HAYES.
STEPHEN E. GAVIN.

Introduction and Address of Brig. Gen. David N. W. Grant

President Fred W. Rankin presented to the House Brig. Gen. David N. W. Grant, Flight Surgeon, as follows:

Mr. Speaker and Members of the House: As you are aware, the Army of the United States is divided into three component parts, Air, Ground and Service of Supply. Each of these branches has its own medical service, and each of them has expanded enormously and their medical services have expanded alongside of them. I believe it is fair to say that the Air Corps has expanded more rapidly and more efficiently and more essentially than any other arm of the service. That is particularly true of the medical service of the Air Corps, because a year and a half ago, I think I am correct in saying, there were 97 flight surgeons in the Army. Today there are 9,300 flight surgeons in the Army.

In this expansion and in the development of the fine *esprit de corps* that the flight surgeons have and the especially fine cooperation that exists between the flight surgeons and the fliers and the men who serve the fliers, I think we can unquestionably pay tribute and give credit to the present Air Surgeon, Brig. Gen. David N. W. Grant. He has developed an extraordinarily efficient staff. He has been exceedingly far reaching in his planning and to him goes an enormous amount of credit for the present day efficiency and the splendid all round rating of the Air Corps, the medical portion of the Air Corps.

General Grant is not a desk general. He has been in every theater of major activity in which our troops now operate, and I am privileged to present him to this House at this moment: Brigadier General David N. W. Grant.

Brig. Gen. David N. W. Grant addressed the House as follows:

Mr. Speaker, General Rankin and Members of the House: General Rankin has been most flattering in his comments but I cannot accept the full credit and responsibility. I leave it to you to say who has done this job. It has been and continues to be the people of this Association who have come to the fore and rendered full cooperation.

I feel particularly honored in being here. Today represents the culmination of about twelve years of hard work and my presence at this meeting is only symbolic of the deserved recognition of aviation medicine, a medical specialty which has had a hard struggle through the years. Aviation medicine has not received due recognition until just recently. We have had almost an absolute neglect of the medical aspect of the flier, due perhaps to some indifference and lack of funds, means and facilities. Of course this war has brought the entire situation to a head.

The development of the Army Air Forces Medical Service has been extremely interesting. It was a new creation. We had nothing to go on, and very little past experience in which to base judgment. I have always thought of aviation medicine as being a return of the old family doctor. It is a specialty, yes, but the old family doctor was a specialist too. I like to feel that we are contributing a great deal to the future of medicine in the United States through our hope of returning physicians to civilian life not with an appreciation of a special part of the individual but with recognition of the individual as a whole and of treating him as a whole. I think the tendency in medicine has been to specialize perhaps to too great an extent. I have come in contact, for instance, with heart specialists who couldn't listen to the lungs. It isn't that I don't believe in medical and surgical specialists, because I do, but I think that they should expand a bit and not consider just a part of the individual but should study the patient as a whole, both as to diagnosis and in treatment.

In considering the development of the medical services of the Army Air Forces, I feel very strongly that if we don't return the physicians who are with us to civilian life at least on a par with what they were when they came to us, or as better doctors, we shall have failed in our mission. For this reason we have sent a great many of our medical men to special schools. The figure is a little over 5,000 in the Army Air Forces alone. We have started an intern and resident program, which, as you know, was announced in THE JOURNAL several weeks ago. We want to give the interns and residents coming to us a chance and we are going to give it to them. Those boys who show ability are going to be advanced and trained under recognized men. We hope the various boards will give them due credit when these young men come to them.

The medical profession has been very kind to us. Without exception we have had the full support of all the professional

organizations. Otherwise we could not have done the job with which we were faced. We have tried to build an *esprit de corps* in our doctors of the same magnitude that exists in the Army Air Forces as a whole and we have built an enviable relationship between our doctors and the Army Air Forces personnel to the benefit of both concerned. I know that in the majority of cases our doctors are happy in their work. Of the men recognized by boards, or of those eligible for their boards, 98.77 per cent of the 1,785 with us are practicing their specialties. I believe that this move alone has saved the Army Air Forces 500 to 1,000 doctors by placing the right person in the right place.

I want to assure the American Medical Association that the Medical Service of the Army Air Forces appreciates the position of the doctor from civilian life. We are trying our best to place him properly and to keep him content and as happy as conditions permit. We all have recognized that there are many, many tasks in the Army that must be done and that there will be some misplaced personnel. It can't be helped in all instances, but we are making an honest endeavor to see that the civilian physician who is with us and who, after all, is doing the work is placed in the field for which he is best fitted.

Dr. Arthur T. McCormack, Kentucky, moved that this statesmanlike address containing the sound principles that it does be referred to the Council on Medical Education and Hospitals with the commendation of the House. The motion was seconded by Dr. William Weston, Section on Pediatrics, and carried.

Report of Reference Committee on Sections and Section Work

Dr. Francis F. Borzell, Chairman, presented the following report, which was adopted on motion of Dr. Borzell, seconded by Dr. Arthur J. Bedell, Section on Ophthalmology, and carried:

There was but one item of business referred to your reference committee, and that was the report of the Council on Scientific Assembly, which, although brief, deals with the major function of the American Medical Association, that of promulgation of medical science.

The manner in which the serious problem of providing suitable material for journalistic publication has been met and the impetus given to continue postgraduate instruction to service man and civilian doctor alike deserves special approval.

Your reference committee therefore recommends the adoption of this report with commendation for the foresighted policy enunciated and the practical method of solving a difficult problem.

Respectfully submitted,

FRANCIS F. BORZELL, Chairman.
L. G. CHRISTIAN.
OLIN H. WEAVER.
BENJAMIN F. COOK.
ARTHUR J. BEDELL.

On motion of Dr. George W. Kosmak, New York, duly seconded and carried, the House recessed for ten minutes at 10:08 a. m., to give the typists an opportunity to finish typing reference committee reports.

The Speaker called the House to order at 10:20 a. m.

Report of Reference Committee on Amendments to the Constitution and By-Laws

Dr. Walter E. Vest, Chairman, presented the first two sections of the report of the Reference Committee on Amendments to the Constitution and By-Laws, the third section being postponed until the Executive Session of the House on motion of Dr. E. H. Skinner, Section on Radiology, and so ordered, without objection, by the Speaker:

Your Reference Committee on Amendments to the Constitution and By-Laws met twice, considered all matters referred to it and offers the following report:

1. The Report of the Judicial Council: While not involving amendments to the Constitution and By-Laws, the report of the Judicial Council is very thought provoking and makes us realize the delicate position we now occupy in the eyes of the populace and the necessity for considering well our every move as a profession. Your reference committee is especially impressed with the care the Council exercises in approving applicants for Fellowship and it commends the entire report to the profession generally.

2. Proposed Amendment to Constitution, Article 5, Section 2, contained in Report of the Secretary as published in the Handbook: Your reference committee has given very careful consideration to that part of the Report of the Secretary relating to the proposed amendment to the Constitution, article 5, section 2, submitted to the House of Delegates by the reference committee on Sections and Section Work at the annual session last year. Your reference committee believes that the adoption of this proposed amendment would be very unwise and essentially destructive, inasmuch as it would tend to change the character of the House of Delegates from a scientific body to a political and economic body. The American Medical Association is, and ought to be, a true composite of the entire medical profession of the United States. It is not only a federacy of constituent state and territorial medical associations but includes as well the national governmental medical services as units, and the separate units of the Scientific Assembly; i. e., the sections. Such an amendment would tend to make the Scientific Assembly less cohesive. The very nature of the Scientific Assembly and its sections demands that the section delegates have full rights including the right to vote; otherwise the point of view of the specialties and the individual sections cannot be properly presented, and the business of the sections cannot be properly transacted. The section delegates, in the judgment of your committee, should be more than mere liaison officers; they should be actual, vibrant members of the House of Delegates invested with all the rights and privileges accorded to the delegates representing the various state and territorial associations. Your reference committee recommends, therefore, that the proposed amendment to the constitution be not adopted.

Respectfully submitted,

WALTER E. VEST, Chairman.
LOUIS A. BUIE.
KARL S. J. HOHLEN.
WILLIAM WESTON.
ELBERT G. WOOD.

Dr. Vest moved the adoption of the first section of the report of the reference committee recommending approval of the report of the Judicial Council. The motion was seconded by Dr. Elbert G. Wood, Tennessee, and carried.

It was moved by Dr. Vest, seconded by Dr. Arthur T. McCormack, Kentucky, and carried after discussion by Drs. McCormack and Vest, that the House adopt the second section of the report of the reference committee recommending that the proposed amendment to article 5, section 2, be not adopted.

On motion of Dr. Vest, seconded by Dr. John Z. Brown, Utah, and carried, the report of the reference committee was adopted as a whole.

Report of Reference Committee on Reports of Officers

The Vice Speaker presided while the first section of the report of the Reference Committee on Reports of Officers was read, after which the Speaker resumed the Chair.

Dr. Deering G. Smith, Chairman, presented the following report, which was adopted section by section and as a whole, on motions of Dr. Smith, duly seconded and carried:

1. Address of the Speaker: Your reference committee feels sure that it voices the sentiment of the entire House in expressing its appreciation of the loyal and efficient leadership of our Speaker. It is pleased that he is emphasizing the work of the reference committees, and it reiterates his plea that members of the House of Delegates and the Association attend and participate in the reference committee meetings. It wishes to thank him for his appreciation of the work and accomplishments of the members of the House of Delegates and assures him of our best efforts to deserve to be called medical statesmen. It is reassuring that the medical statesmanship of the past has contributed to our present high standard of medical care of the war casualties and of the civilian population. Your reference committee agrees with Dr. Shoulders that such medical

statesmanship must continue if the problems of the future are to be solved.

2. Address of the President: Our President has had the most difficult task of leading the Association during this year of the war and also holding a high position in the Office of the Surgeon General of the Army. He has discharged his manifold duties with credit to himself and to the benefit of organized medicine. He has had an unusual opportunity to gain a comprehensive view of the medical problems as they are related to the physician, the state and the people. In his scholarly address he has set forth certain broad concepts which should be carefully studied by every member of the profession.

He has charged us with the responsibility of approaching the problems of medical care in a thoroughly cooperative spirit. He further expresses the opinion that to achieve these solutions the American Medical Association should set up the necessary agencies. It is expected that the Committee on Planning of Postwar Medical Services will be such an agency.

3. Address of the President-Elect: (*a*) Your reference committee is conscious of the time and effort expended by the President-Elect in the affairs of organized medicine, and it expresses appreciation of this sacrifice.

It is noted with interest that twelve to fifteen million people under the American voluntary system have procured for themselves protection against the expense of major illness. This is an example of how the American people under proper leadership and education will provide for themselves without the undesired intervention of a paternalistic government.

Your reference committee commends Dr. Paullin's efforts in the provision of continuing medical education for our members now in service and for the civilian physicians who have been deprived of attendance at the customary Scientific Assembly. It recommends that this House of Delegates approve the Wartime Graduate Medical Training program and suggests that after the war it may be advantageous to incorporate it in the peacetime system of postgraduate instruction.

(*b*) Your reference committee notes with enthusiasm the formation by the Board of Trustees of the temporary Committee on Planning of Postwar Medical Services, which action it recommends be approved by the House of Delegates.

(*c*) Your reference committee further recommends that the Board of Trustees be instructed to make this a permanent committee on Planning of Postwar Medical Services to cooperate and collaborate with other agencies concerned with these problems.

Respectfully submitted,

DEERING G. SMITH, Chairman.
FLOYD S. WINSLOW.
JOSEPH H. CANNON.
WILLIAM R. BROOKSHER.
EDWARD JELKS.

The Speaker announced that he had consulted with the chairman of the Reference Committee on Rules and Order of Business and that he was told that it was that chairman's opinion that the same regulations in the By-Laws that usually apply to the meeting of the House on Thursday of the week of the annual session would apply tomorrow (Wednesday) this year; which means that no new business may be presented at tomorrow's meeting unless it comes from the Board of Trustees, the officers of the sections or the sections, except by unanimous consent. This opinion was confirmed on motion of Dr. Arthur J. Bedell, Section on Ophthalmology, duly seconded and carried, after discussion by Drs. Allen H. Bunce, Georgia; Holman Taylor, Texas; Arthur T. McCormack, Kentucky; R. W. Fouts, Vive Speaker; John Z. Brown, Utah, and the Speaker.

On motion of Dr. Edward H. Cary, Texas, duly seconded and carried, the House recessed from 10:50 a. m. to 11 a. m.

Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr. Louis H. Bauer, Chairman, presented the report of the reference committee, which on motions of Dr. Bauer, duly seconded and carried, was adopted section by section, that section of the report of the reference committee dealing with hospital corporations engaging in the practice of medicine being amended, and as a whole as amended.

REPORT OF THE SECRETARY

1. Membership and Fellowship: Once again your reference committee is pleased to note an increase in the membership of the Association, which now totals more than 123,000, or an increase in ten years of over 25,000. The committee agrees with the Secretary that it refutes an oft made charge that physicians as a whole are not in accord with the Association. Your reference committee feels that there is probably no organized body which has been so slandered by outsiders who do not know the true facts as has been the American Medical Association.

There has been a decrease of 896 in the Fellowship class, but, considering that there are 45,000 physicians in the armed forces, this decrease is surprisingly small. It is evidence that the House acted wisely a year ago in making no recommendation to revise the Constitution and By-Laws to permit remission of Fellowship dues, and that the great majority of Fellows wish to maintain their subscription to the various journals of the Association in order to keep abreast of the changes in medicine.

2. Cancellation of Annual Session: Your reference committee feels that the Trustees acted wisely in canceling the annual scientific session and having a meeting only of the House of Delegates and of the councils in view of war conditions, particularly as to transportation and the general shortage of physicians.

3. Correction of the Minutes: Correction of the proceedings of the 1942 session of the House of Delegates was requested by Dr. Arthur J. Bedell, Section on Ophthalmology, but as this has already been taken care of by the House on June 7, 1943, no further action is necessary.

4. Annual Conference of Secretaries and Editors of Constituent State Medical Associations: This conference is an annual affair and in these times is especially important in order that all war activities as well as routine matters of the various constituent associations may be properly coordinated. These conferences should be continued through the war, unless transportation restrictions become so acute that it is not feasible. Special thanks should be expressed by the House to those government officials who have attended these conferences and helped in their success.

5. Service of the Secretary: The Secretary again has expressed his thanks to all those with whom he has been officially associated. Your reference committee notes that this year completes twenty-one years of service by Dr. Olin West as Secretary. To express what the House in particular and organized medicine in general owes to him would be impossible, but your reference committee recommends that the House express its thanks and its best wishes for continued service from him.

REPORT OF BOARD OF TRUSTEES

If any member of the House has not read the report of the Board of Trustees, he owes it to himself and the organization he represents to do so. As usual, it contains a great deal of informative material.

1. Income and Expenditures: It was fully expected a year ago that the income of the Association would be materially reduced by the exigencies of the war. Your reference committee notes with great satisfaction that such is not the case. The total income is greater by over $36,000 for 1942 than for 1941. The Board of Trustees also reports a reduction in the total expenditures for 1942 over 1941 of nearly $71,000. Another unexpected source of income was from Fellowship dues and subscriptions. While it was expected these would decrease, there was an actual increase of nearly $9,000. This is particularly gratifying as it evidences a feeling of those in the armed services that they must have the Association's publications. Again, it was felt a year ago that income from advertising space in THE JOURNAL might and probably would be decreased. Instead of that there has been an increase of well over $26,000. However, your reference committee feels it must caution the House that continued increases cannot be expected. We probably have not yet felt the full impact of the war effort and restrictions of advertising may yet well occur, as well as further restrictions in the use of paper.

A falling off in the income from investments of about $3,000 is noted and this must be expected, and, in fact, there may be a still greater reduction next year.

There has also been an increase in the cost of paper, which will be felt still more during the current year as new stocks are purchased. The Trustees have cooperated with the government by cutting down the size of publications and the paper margins and by the use of lighter weight stocks. It is hoped that it will not be necessary to curtail the amount of the scientific content, but even this may occur.

As indicated a year ago, salaries and wages have increased. This cannot be avoided, and further increases may be necessary, particularly as the work of the Association has been tremendously increased by its participation in war activities.

Operation of the councils, bureaus and departments of the Association has increased in cost by a little over $7,400, doubtless because of war activities.

The legal and investigating expense has decreased by about $55,000. This has been due to the fact that a year ago the costs were great because of the suit against the Association by the government.

As a whole we can look on the financial status of the Association as excellent, and the Trustees should be commended for their excellent handling of the finances of the Association. While income may yet fall off before the war is over, the increases in income during the past two years will afford an excellent backlog without the Association having to dip too deeply into its principal to maintain its activities on the present level.

2. THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION: Your reference committee recommends approval of the action of the Trustees in giving special consideration to the problems of war medicine and war effort as a whole. It also notes with satisfaction that the Trustees have arranged with the scientific sections for a continued flow of material for publication in spite of the cancellation of the annual scientific session.

Your reference committee also recommends continuance of the organization section of THE JOURNAL on its present plane.

Your committee also approves the action of the Trustees in appealing to the War Production Board on the reduction of paper used by 10 per cent, as THE JOURNAL and its contents are certainly a contribution to the war effort.

While there has been a slight reduction in the total circulation of THE JOURNAL during the past year, it is surprisingly small and, were it not for the cancellation of foreign subscriptions naturally to be expected, the circulation would be larger rather than smaller.

3. Special Journals: A year ago it was reported that two of these nine journals were operated with an income above the cost of publication. This year four of them have been so operated. Total circulation of these journals has slightly increased, the increase being due partly to WAR MEDICINE, which increased its circulation by 33 per cent. In view of the war situation, these facts are very encouraging.

4. HYGEIA: This magazine also increased its income by over $40,000. Wider distribution among the laity would serve as an excellent means of education and help counteract the propaganda of cultists and faddists. This increase in income has been largely due to the activities of the Woman's Auxiliary, and our thanks are due that body.

5. Library: The library has continued its usefulness, and there has been special call for articles with reference to war medicine. It is believed by your reference committee that more extended use would be made of the library if THE JOURNAL from time to time would print a notice calling attention to its availability and the character of the service it can render.

6. Standard Nomenclature of Disease and Standard Nomenclature of Operations: The third edition of the Standard Nomenclature of Disease and the first edition of Standard Nomenclature of Operations, combined in a single volume, have been issued. This useful volume should be of interest not only to hospitals but to every physician.

7. QUARTERLY CUMULATIVE INDEX MEDICUS: This publication, one of the most valuable in medicine, has suffered a severe setback in that only about half as many articles were indexed in 1942 as in 1941. This is because of the difficulty in obtaining foreign journals. However, as a result, the cost of and the loss sustained in publication were considerably less. Your reference committee feels that publication should continue in spite of its incompleteness, and it is hoped that after the war the deficiencies in the INDEX can be made up.

8. American Medical Directory: The publication of the seventeenth Directory was delayed unavoidably by war conditions, and the Board of Trustees feels that the next edition, which would ordinarily be published in 1944, may have to be considerably postponed. Your reference committee feels that the time of publication of another directory should be left to the judgment of the Trustees and so recommends.

9. Mailing and Order Department: Attention is merely invited to the tremendous amount of mail handled by the office of the Association.

10. Cooperative Medical Advertising Bureau: This was the most successful year of the Bureau from the financial standpoint. The Bureau continues to be of great value to many state journals.

11. Press Relations: The ramifications of the Press Relations activities of the Association continue to increase. The AMERICAN MEDICAL ASSOCIATION NEWS is reaching a constantly increasing number of agencies. Press stories based on THE JOURNAL and HYGEIA totaled over 83,000 in 1942, an increase of nearly 2,000 over 1941. An increasing number of feature stories and editorials and radio broadcasts based on information furnished by the Association is noted. Over 3,800 inquiries were answered, an increase of 700 over 1941. The Press Relations activities have also played a large part in the war activities of many organizations, including the government. These activities of the Association deserve commendation and should be continued. It is through such relations that much of the vicious propaganda against American medicine can be combated.

12. Council on Pharmacy and Chemistry: During the past year the Council has increased its contributions to the welfare of the physician and the public and has given material aid to many agencies of the federal government in prosecution of the war effort. Furthermore, it has held a meeting with representatives of the American Pharmaceutical Association and established cooperative relationships with a number of foreign countries. Several of the publications of the Council have been revised during the year and there is an increasing demand for them. The Council has continued research through various grants, and valuable information on new methods of treatment is expected. Forty-four reports and twenty monographs on drugs have been issued and many more drugs are under study.

At the annual meeting of the Council, among the matters discussed were prevention and treatment of fungous infections, promotion of mixed vitamins, labeling of vitamin preparations, mineral waters, contraceptives, use of the metric system, scope of New and Nonofficial Remedies, medical and pharmaceutical relations, and censorship of published descriptions of new drugs, the last named being required by the Office of Censorship. Your reference committee is glad to note that further attention has been given to the subject of vitamins in accordance with the expressed wishes of the House a year ago. Several changes have been necessitated in the personnel of the Council because of death and resignations. Your reference committee notes that 1942 completed the thirty-eighth year of this council. The Council is to be commended for its activities and productive efforts. Your reference committee urges that still further clarification be made of the use of vitamin therapy and decries the commercialization of this important subject by some commercial organizations.

13. The Chemical Laboratory: This laboratory, now in its thirty-seventh year, is one of the mainstays of the Council on Pharmacy and Chemistry. A great deal of work has been accomplished the past year on vitamin K and testing and setting up standards for numerous drugs both old and new. Its equipment has been increased and it is now outstanding among well equipped laboratories. The Laboratory has cooperated with all departments of the Association and with a number of other organizations. Its work deserves commendation.

14. Council on Foods and Nutrition: A new load has been thrown on this council by the war because of the important food problems which have arisen in connection with it. The Council has been in close touch with the government agencies charged with promulgation and enforcement of orders pertaining to foods. In cooperation with the Council on Industrial Health, a Cooperative Committee on Nutrition in Industry has been established. A great deal of further work has been done on vitamins and, as a result, opinion has gradually crystallized on the question of fortifying foods with vitamins and minerals. Your reference committee is glad to note that the policies of governmental agencies have been largely in harmony with those of the Council. In cooperation with the Council on Pharmacy and Chemistry and the Council on Industrial Health, reports have been made on the proper use of vitamins in mixtures and the administration of vitamins to industrial workers. This work has been very timely and it is urged that the Council continue its research and educational activity in this field. In the opinion of your committee, vitamins should be available on the basis of food and not on the basis of drugs. Efforts should be made to make them available at a lower cost to the public whenever a physician feels that it is essential to prescribe them. Consideration has been given to the substitution of food ingredients, and the Council has felt that it was preferable as a rule to produce less rather than to diminish nutritional quality through substitution. Reports have also been issued on maintaining nutritional standards in formulation of mixed vegetable juices and on comparative nutritional value of butter and oleomargarine. It is recommended that the activities of the Council be approved and commended.

15. Council on Physical Therapy: The Council has devoted much of its time to presentation of useful, reliable and factual information about physical therapeutic methods for the attention of civilian, army and navy physicians confronted with the task of rehabilitation. The Council has cooperated with government agencies by giving advice on physical therapeutic procedures and apparatus. In cooperation with a subcommittee of the National Research Council, the Council has prepared a manual on physical therapy and with other groups is preparing one on occupational therapy, which will be of value to those concerned in rehabilitation. A Handbook of Amputations has also been issued and is of value to both military and civilian physicians. The Council consultants aided in revising the curriculum for schools of technicians and in investigation of audiometers and hearing aids and has published specifications for a home made respirator. Application of ultraviolet radiation for disinfection was studied, and a statement on the problem was published. The booklet "Apparatus Accepted" was revised. Grants were made for research on problems vital to physical therapy. Twenty-one reports were published during 1942.

The members of the Council and its consultants, who receive no remuneration, have given a great deal of time and effort to the work of the Council and deserve the House's thanks and commendation.

16. Bureau of Medical Economics: A. In carrying out the plan for a national emergency, adopted by the House in 1940, the Bureau of Medical Economics was designated as the agency to conduct the census of the medical population. This entailed a tremendous amount of work and resulted in an increase in the staff of the Bureau. This census became of incalculable value to the Procurement and Assignment Service when it was established. The Bureau at first acted as a consultant office of that service. At the end of 1942 it was deemed advisable to separate the two entirely and the census was given over to Army and Civil Service personnel at the close of 1942.

B. (*a*) Prepaid medical service plans were studied and analyzed in addition to the work connected with the war, already referred to. The report of the Bureau reviews the history of the subject, the earliest plans being the unit system arrangements in the states of Oregon and Washington. By the summer of 1941 about twenty state medical societies had taken steps to introduce statewide plans. Besides Washington and Oregon, at the present time there are eight other states which have developed plans with the support of their state medical societies. California, New Jersey, Michigan, Pennsylvania, Colorado, North Carolina and Massachusetts each have one plan. New York has three. It is interesting to note that in 1935 there were over two hundred suggested methods. The Bureau feels that certain fundamentals ought to characterize all plans and is of the opinion that its report of 1935 is no less applicable now than then. In that report it listed ten dangers to be avoided in any plan. The Bureau again stresses these ten points, which your committee feels are well worth stressing. They should be familiar to every member of the House, so that they will not be repeated in toto here. All ten are important, but your committee does wish to lay special emphasis on two of them, namely, numbers 8 and 10. These are "the freezing of medical fees at a point below that which is consistent with good medical care" and "medical society plans must not be considered or accepted as a substitute for the regular practice of medicine as applied to the majority of people. If it is believed such plans may be useful, they should be considered merely as supplementary facilities in the distribution of medical service. They should be used only so long and in such a manner as they serve efficiently to make more easily available to low income groups a high quality of medical care." The Bureau also has repeated that portion of its 1935 report dealing with vital factors to be recognized and protected. The substance of these factors is the avoidance of competition and, to quote the report, "the medical profession, in its professional associations, is the only possible body that can organize the supply and distribution of that service without harmful effects on, and possible destruction of, that service itself."

(*b*) Experience with medical service plans has developed some interesting facts:

(1) The offering of a prepayment medical service the quality of which is guaranteed by the medical profession increases the demand for medical care much more than any one anticipated.

(2) The public's sales resistance has an important effect on the success of the plan. Premiums must be within the limits of the valuation placed by the average person on the preservation of his health. Education of the public is an important factor in solving this problem.

(3) Actuaries, physicians and consumers cannot determine accurately the effect of various contract provisions on the minds of possible purchasers of prepayment medical care.

(4) Some subscribers will always be trying to get something in return for their money, and this may overthrow the most careful actuarial calculations. In turn, this may result in a tendency to restrict the amount of care or, on the other hand, to dilute it and make it poor and ineffectual. The Board feels that the objective should be to guard against abuse and encourage use.

(5) Unnecessary surgery may be performed by unscrupulous physicians. This must be curbed by courageous and efficient medical organizations.

(6) The type of clientele served may affect the success of the plan. This makes it impossible to adopt a nationwide plan or in some cases even a statewide plan.

(7) Income is an important factor. The original decision to limit plans to low income groups has resulted in sales resistance. Key men in industry are not interested in fostering plans which do not protect them.

(8) Income limits also have a bearing on the comparative desirability of "indemnity" or "service" benefits and has led to the development of a so-called "surgical" plan.

(*c*) Actuarial difficulties have led to the development of limited plans. The public seems unwilling to pay the cost of unlimited care. An advantage of the limited plan is that it covers so-called "catastrophic" illnesses, and these are more easily figured from the actuarial standpoint. On the other hand, rural areas are not well covered by such a limited plan because of often inadequate hospital facilities. The public must be educated to realize the value and cost of complete medical service before such complete service can be developed. Such education will help combat the deceiving propaganda for compulsory insurance. A special committee of the Massachusetts Medical Society stated "Your committee urges a gradual approach to our ultimate ideal—total medical coverage by a comprehensive policy—through well defined initial steps of

partial coverage." This recommendation should be considered carefully by all states in the opinion of your own reference committee. Again your reference committee reiterates the statement of the Bureau of Medical Economics that professional supervision of all the standards of medical service must be made one of the dominant features of prepayment services as it always has been of private practice.

(*d*) Medical service plans of the Farm Security Administration have been universally reported as being conducted in accordance with the principle that the medical profession should control all features of medical service in any method of medical practice.

The Bureau of Medical Economics has therefore included in its report a summary of the history of prepaid medical service, repeated the basic principles previously adopted by the House and given a summary of the experience with different plans. The Bureau has carried out its function as a clearing house in the development of plans for prepaid medical service. The publication of this report will be of great value to those who are intimately concerned with such plans. These plans are still in the process of trial and error, but much good has developed from them. However, further experimentation will be necessary. The Bureau should cooperate in every way possible with those who are developing plans. In the opinion of your reference committee, therefore, the Bureau is correct in not attempting to draft a nationwide plan, because of the varying conditions in different states. It should continue to do just what it has done during the past year. Approval of its work is recommended.

C. The Bureau notes with alarm the possibility that lack of funds may prevent the compilation and publication of basic statistical tables in connection with the latest decennial census of the United States. Your reference committee agrees and recommends that the House refer the matter to the Board of Trustees for such action as seems most practicable in urging the government to allocate sufficient funds to the Census Bureau so that the latest census may be as reliable and informative as the preceding ones.

17. Bureau of Investigation: During the past year the bureau has continued its educational work with both the profession and the public in "patent medicines," quacks, frauds, fakes and faddists. While inquiries from physicians have fallen off, those from students have greatly increased. Eight thousand four hundred items have been inquired about. The bureau has continued its contributions to THE JOURNAL, in the form both of original articles and of abstracts. One thousand seven hundred and seventy-five pamphlets have been distributed and many addresses made by the director of the bureau. The bureau has also cooperated with governmental and civic organizations concerned with the war effort. Your reference committee commends the work of the bureau and urges continuance of its activities along the same lines.

18. Bureau of Exhibits: Attention is invited to the report of the bureau on the scientific exhibits at the Atlantic City session, where there was a total of 216 exhibits and four motion picture theaters in continuous operation. Loan exhibits were sent out during the year ninety-one times to fifty-eight meetings. A total of fifty-six exhibits are now available. Twenty-six motion pictures are also available for loan. They were sent out 245 times. Many hundreds of requests for information have been answered and books and pamphlets have been prepared for distribution. The bureau makes no recommendations, but its work is deserving of commendation.

19. Committee on Student Health: This committee was appointed at the suggestion of government officials, has had two meetings and reports progress.

20. Committee on the Conservation of Vision: This committee has also been appointed this past year, but, because of the war, its plans are not complete and will be reported later.

21. Progress Report of the Committee to Study the Relationship of Medicine and Law: In compliance with a resolution of the 1941 House, a committee was appointed for this purpose. Two meetings have been held and the work is being carried on in collaboration with the American Bar Association. The committee considered as its most important topic those closely integrated medical and legal activities which have as their common purpose the investigation of deaths in the interests of justice and public safety. The subject was divided into three parts and each assigned to a subcommittee. A preliminary report was drawn up and as a result of it the committee is now conducting a survey of the relative costs of operating coroner and medical examiner offices and also is drawing up various types of model legislation for the improvement of coroners' or medical examiners' offices. Several months will be required to complete the studies and render a report. Your reference committee recommends that the committee be continued in order to complete its work.

22. Committee on Inter-American Relations: The Board of Trustees recommends that a Committee on Inter-American Relations be created in the interest of friendly relations with the medical profession of the countries of North and South America. Your reference committee recommends that this request be approved.

23. Committee to Study Air Conditioning: Progress has been reported by the committee to the Board of Trustees, but the nature of existing conditions makes it advisable that the report be withheld from publication at present. The work should be continued, and your reference committee so recommends.

24. Committee on American Health Resorts: The war has interfered with the work of the committee, which has, however, revised its rules for listing health resorts and is continuing the preparation of scientific papers. The committee should be continued so that the work which has been started can be carried on in the interest of further development and regulation of American health resorts.

25. Hospital Corporations Engaging in the Practice of Medicine: This supplementary report deals with three resolutions introduced in the 1941 and 1942 houses. The first related to certain group hospitalization plans, including certain medical services, contrary to the expressed policies of the House of Delegates, and called for a clarification of the existing relations between physicians and hospitals. The second called for the appointment of a committee to confer with the national hospital associations on the differentiation between medical and hospital services so that the physician-patient relationship of the pathologist, the radiologist and the anesthetist may be preserved. The third asserted that the practice of certain insurance companies in paying for medical services under policies covering hospital and health insurance might lead to the inclusion of physicians' services in hospital bills.

All three resolutions were referred in whole or in part to the Board of Trustees. The Board, after reviewing the previous actions of the House on the same subjects, came to the following conclusions:

(1) In the solution of a given abuse, whether concerned with exploitation of the physician or with exploitation of the patient, actual facts must be established and local conditions must be understood before the adjudicating body can act. Constituent associations and component societies are in a better position than are the national bodies to obtain and to act on these cardinal necessities.

(2) Conditions vary widely in the respective jurisdictions requiring the weighing of circumstances before the letter of the principle or the approved action of the House of Delegates can be equitably applied.

(3) The local society is better able than is the national body to do justice to a situation that is colored by so many factors.

(4) No new principles are involved in the resolutions under consideration, and no new pronouncements would appear to be necessary.

(5) The responsibility for the correction of abuses rests primarily on component county medical societies and constituent state or territorial medical associations empowered to govern themselves in local matters, while they may reasonably be expected to abide by the authority of the House of Delegates in matters of general policy.

(6) The obligation to prevent the exploitation of the patient while protecting the prerogatives of the physician bears with equal responsibility on our profession.

(7) Special societies are in position to help in the equitable solution of these urgent problems by securing the understanding and cooperation of their members. Attempts to devise remedial measures at the national level would appear to be unwise.

Before discussing these further, we must take into consideration the "Supplementary Report of the Board of Trustees on the Report of the Proceedings of the Joint Committee Meeting of National Hospital Associations and Representatives of the Board of Trustees of the American Medical Association," as this report deals with the same general subject.

This report is lengthy and represents a prodigious amount of work. Even though the report is lengthy, it behooves every member of the House of Delegates to read and study it carefully. The factual data contained therein concern the whole future of the practice of medicine. Unless the medical profession as a whole is willing to devote at least the same amount of time and effort in studying the report and correcting the dangers pointed out therein as the Board of Trustees has in compiling it, then we might as well "throw in the sponge" now and consent to lay domination of the practice of medicine.

That the Blue Cross plans to give medical service with or without the approval of the medical profession there can be no doubt after reading this report. The fact that the House of Delegates on numerous occasions has declared against the selling of medical service by hospitals has not stopped the practice. National approval or disapproval of any practice is a waste of time unless the state and county organizations will see that the dicta of the national body are carried out in the small localities.

The report gives the entire history of the whole matter and reviews the actions of previous House resolutions on the subject. It is high time that it was taken seriously not just for the duration of the meeting of the House but for the other 360 odd days of the year.

Your reference committee, therefore, recommends:

A. That the House emphatically reiterate that it disapproves the injecting of a third party into the personal relationship of the patient and the physician, and that hospitals should not be permitted to practice medicine.

B. That the practice of radiology, pathology and anesthesiology is the practice of medicine just as much as is the practice of surgery or internal medicine, and that it is only a short step from including the first three in a medical service plan to including the whole field of medicine in such a plan.

C. That the public should be educated to realize that the hospital created monopoly control of radiologic or any service as a source of profit beyond the normal provision for replacement, department development and proper proportion of over-all costs of operation of the hospital should not be permitted, nor can the hospital rightfully use per diem charges against all the hospital patients to support a radiologic or other department devoted to creating bargains in radiologic or other services in order to make hospital group insurance more attractive. To permit either will result in decrease of the quality of service and increased cost to the patient.

D. The medical profession must watch with care all proposed plans for medical service and endeavor to prevent the acceptance of any plan which includes medical service under the control of the hospital.

E. The effectiveness of this program can be attained only if constituent state medical associations and component county medical societies use their influence on hospitals in their respective localities and exercise control over the local members of the medical profession.

F. The public must be educated on what it will mean to them in the way of inferior medical care if these dangerous trends are not curbed.

G. In the relationships of the medical staff and the board of directors of a hospital there should be no intermediary. The staff should have direct access to the board.

H. The Board of Trustees should continue its conferences with national hospital associations and should also endeavor to enlist the support of special medical organizations in education both of the profession and of the public.

The Board of Trustees in general and Dr. Sensenich and Dr. Irons in particular should be commended for the tremendous amount of time and effort which they have given in preparing their very informative report.

Your reference committee recommends that the House of Delegates of the American Medical Association urge the American Hospital Association to withhold approval of the uniform comprehensive Blue Cross contract proposed by the Hospital Service Plan Commission of the American Hospital Association which includes certain medical services as a part of hospital care and which, if adopted as recommended by the said commission, would virtually compel the addition of medical services to the benefits of those Blue Cross plans and now accede to the demands of the American Medical Association by confining their benefits to hospital services.

26. Board of Trustees: Your reference committee is aware of frequent criticisms of the Board of Trustees because the Board does not do this or that, and, although it should be well known by the medical profession at large, it is worth repeating that the Board of Trustees is bound by the mandates of the House and the House is responsible for the Board's activities. Your reference committee feels that the House should express its appreciation of the tremendous amount of work carried on throughout the year by the Trustees, an amount of work which has been greatly increased by the war. It recommends, therefore, that the House express its heartfelt thanks to the members of the Board for their efficient work.

REPORT OF THE TREASURER

The report of the Treasurer has already been covered in substance in the section of the Report of the Board of Trustees under the heading of "Income and Expenditures."

Your reference committee recommends the approval of the report and notes with satisfaction the excellent financial status of the Association. Your reference committee also approves the appointment of Dr. Olin West as ad interim Treasurer following the resignation of Dr. Kretschmer. It feels that the House owes a debt of gratitude to Dr. Kretschmer for his untiring and faithful services as Treasurer for many years, and so recommends.

Respectfully submitted,

LOUIS H. BAUER, Chairman.
W. A. COVENTRY.
ANDREW F. MCBRIDE.
JAMES R. MCVAY.

It was moved by Dr. Felix J. Underwood, Mississippi, duly seconded and carried, that the House thank the reference committee for the excellent analysis and very complete report.

Report of Reference Committee on War Participation

Dr. Stanley H. Osborn, Chairman, presented the following report, which was adopted, on motions of Dr. Osborn, duly seconded and carried:

Your reference committee had referred to it that portion of the report of the Board of Trustees dealing with participation in the war effort contained in the report of the Board of Trustees as printed in the Handbook, pages 33 to 36, and the report of the 1942-1943 Committee on War Participation.

Your reference committee is in complete accord with the action of the Board of Trustees in making available to the Procurement and Assignment Service and to other federal services assistance, advisory services and such facilities of our Association as would be of value to the war effort.

Your reference committee commends the work of the Board of Trustees in authorizing the preparation and furnishing of a scientific news letter to the officers of the medical departments of the armed forces, and it compliments the editors of WAR MEDICINE and hopes that publication will continue along the same high standard so evident in the past.

Your reference committee approves the arrangements made by the War Participation Committee with the Surgeon General of the U. S. Public Health Service whereby the Public Health Service in conjunction with the Procurement and Assignment Service has undertaken studies of the medical needs in certain

critical areas of the country. It seems evident that only by collecting such factual data can the relative needs of the civilian population in the different areas be assessed.

Your reference committee approves in principle the development in the different states of plans whereby certain physicians from other states, not acceptable to the armed forces, may be allowed to practice for the duration of the war emergency in critical areas where the medical needs of the civilian population may be assisted by such action. These plans may be different in the several states and should be worked out by each constituent state medical association in accordance with its local problems. Your reference committee would emphasize the importance of newly located physicians being accepted serving as locum tenens only.

Your reference committee suggests that in those states where the Procurement and Assignment Service feels the need of a medical advisory group it request that a state war participation committee be appointed by the state medical society.

Your reference committee urges closer relations between the War Participation Committee and those in authority who during the war emergency are in control of medical education and training. It recommends the continuation of the War Participation Committee in order that it may continue to serve in the admirable way it has in assisting in the war effort and for civilian health in accordance with the action of the House of Delegates at the 1942 session.

Respectfully submitted,

STANLEY H. OSBORN, Chairman.
CHARLES H. HENNINGER.
SAM E. THOMPSON.
FORREST J. PINKERTON.
WALTER B. MARTIN.
L. B. MCAFEE.

NEW BUSINESS

Resolution Requesting Board of Trustees to Prepare a Concise Statement of Achievements of the Medical Profession for Submission to Boards of Education

Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, presented the following resolution, which was referred to the Reference Committee on Reports of Board of Trustees and Secretary:

WHEREAS, Education is the hope of the world for better citizenship, patriotism, stability and understanding; and

WHEREAS, Opportunity is knocking at the doors of our high schools to present the great achievements of medical progress in the last few decades; therefore be it

Resolved, That the Board of Trustees prepare a concise statement of the achievements of the medical profession, especially the prevention of blindness and deafness, to be sent through the state medical societies to the boards of education in charge of high schools throughout the nation.

Resolutions Opposing Legislative Recognition of Cultists

Dr. J. F. Hassig, Kansas, presented the following resolutions, which were referred to the Reference Committee on Medical Education:

WHEREAS, The members of the Kansas Medical Society believe that the osteopathic, chiropractic and other cultist schools of the healing art are entirely unqualified for the adequate instruction of their students in the practice of medicine, surgery, obstetrics and any branches thereof; and

WHEREAS, These cultists and their schools have arisen as healing methods opposed to the use of medicine and surgery; and

WHEREAS, The licensed practitioners of these healing arts are in ever increasing numbers practicing medicine and surgery, often illegally; and

WHEREAS, This is resulting in a lowering of the standards of medical practice in many states because of the admission in various degrees to the practice of medicine and surgery by the cultists, especially the osteopaths, whereby the osteopathic schools become in effect diploma mills for the practice of medicine and surgery; and

WHEREAS, The Kansas medical profession rejects the idea that any of the cultists are qualified to practice medicine and surgery; therefore be it

Resolved, That the proper department of the American Medical Association be suitably expanded to acquire the material and develop suitable means to combat this evil of legislative recognition of the cultists to participate in the practice of medicine and surgery for which they are unqualified; and be it further

Resolved, That the house of delegates of the Kansas Medical Society at its regular session of May 8, 1943 at Topeka, Kan., does hereby approve this resolution; and be it further

Resolved, That this resolution be presented to the House of Delegates of the American Medical Association at its next meeting in Chicago.

Resolution on Amendment to the Federal Compensation Act

Dr. Edward C. Podvin, New York, introduced a resolution seeking to effect amendment of the Federal Compensation Act, which was referred without reading to the Reference Committee on Legislation and Public Relations.

Resolution Proposing Amendment to Constitution, Article 6, Section 3

Dr. Arthur S. Risser, Oklahoma, presented the following resolution, proposing an amendment to the Constitution, article 6, section 3, which, under the Constitution and By-Laws, must lie over for action until next year:

WHEREAS, The American Medical Association is composed of the fifty-four constituent state and territorial medical associations; and

WHEREAS, Twenty-two of these state associations lie west of the Mississippi River and are considered more or less rural states where the problems of medicine and public health are different from those of the industrial states; now therefore, be it

Resolved, That the house of delegates of the Oklahoma State Medical Association instruct its delegates to introduce the following amendment to the Constitution of the American Medical Association:

Amend article 6, section 3, by adding the following language:

"After the adoption of this amendment, the House of Delegates shall elect at the earliest possible time at least three Trustees from the states west of the Mississippi River, and all appointments to fill unexpired terms of these Trustees shall be from states west of the Mississippi River and that this ratio of members shall at all times be retained."

On motion of Dr. E. H. Cary, Texas, seconded by Dr. Charles E. Mongan, Massachusetts, the House recessed at 12:05 p. m. for luncheon.

Tuesday Afternoon, June 8

The House of Delegates was called to order by the Speaker at 2:05 p. m.

Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr. Louis H. Bauer, Chairman, presented the following report, which was adopted on motion of Dr. Bauer, seconded by Dr. Arthur T. McCormack, Kentucky, and carried:

Resolution Requesting Board of Trustees to Prepare a Concise Statement of Achievements of the Medical Profession for Submission to Boards of Education: Your reference committee feels that this is a rather large order, particularly with regard to preparing a statement on the achievements of the medical profession as a whole. However, it is believed that a story could be prepared and published in HYGEIA, which reaches most of the high schools in the country. In addition, as soon as possible, motion pictures should be prepared for general release which could cover the prevention of deafness and blindness and highlight the achievements of the profession in the prevention of disease and the elements of public health in general.

Your reference committee so recommends and further recommends that the Section on Ophthalmology and on Laryngology, Otology and Rhinology be consulted in the preparation of the material.

Respectfully submitted,

LOUIS H. BAUER, Chairman.
ANDREW F. MCBRIDE.
W. A. COVENTRY.
JAMES R. MCVAY.

On motion of Dr. Arthur T. McCormack, Kentucky, seconded by Dr. Walter E. Vest, West Virginia, and carried as amended, attendance at the Executive Session was granted to members of the House of Delegates, any alternate delegates in attendance, employees of the Association, full time secretaries of constituent state medical associations and component county or district medical societies, secretaries of regional medical associations, chairmen of procurement and assignment committees for states who

are present, officers of constituent state medical associations properly accredited, editors of medical journals, the chairman of the committee on public health legislation of the Medical Society of the State of Pennsylvania and deans of medical schools.

Executive Session—Tuesday Afternoon, June 8

The Sergeants-at-Arms polled the House, after which, on motion of Dr. William R. Brooksher, Arkansas, seconded by Dr. Arthur J. Bedell, Section on Ophthalmology, and carried, the House went into Executive Session at 2:15 p. m. with Dr. H. H. Shoulders, Speaker, presiding.

Report of Reference Committee on Legislation and Public Relations

Dr. Thomas A. McGoldrick, Chairman, presented the following report:

1. Resolutions Expressing Approval of Federal Assistance to Wives and Children of Service Men as Outlined in Plan Under Consideration by Federal Children's Bureau, introduced by Dr. John H. Fitzgibbon, Oregon: Your reference committee recommends (*a*) that the action of the federal government in making funds available for maternity and infant care for the wives and infants of enlisted men be approved, and (*b*) that adoption be urged of a plan under which the federal government will provide for the wives of enlisted men a stated allotment for medical, hospital, maternity and infant care, similar to the allotments already provided for the maintenance of dependents, leaving the actual arrangements with respect to fees to be fixed by mutual agreement with the wife and the physician of her choice.

2. Resolution Approving Proposed Changes in Regard to Medical Services of the American Red Cross in Disaster Relief, submitted by Dr. Arthur T. McCormack, Kentucky: Your reference committee recommends that this resolution be approved.

3. Resolution Urging the Creation of a Federal Department of Health, introduced by Dr. Thomas A. McGoldrick in behalf of the New York State delegates: Your reference committee recommends the adoption of this resolution with the insertion of the words "which shall have full responsibility for all the medical and health activities of the government with the exception of those connected with the armed forces," so that the resolution will now read:

Resolved, That the American Medical Association urge with all the power at its command that a federal department of Health be created which shall have full responsibility for all the medical and health activities of the government with the exception of those connected with the armed forces, and that this department be headed by a Secretary of Health, who shall be a properly qualified Doctor of Medicine, and who is a member of a component county medical society.

4. Resolution Requesting Changes in Administration of Federal Security Law so as to Assure Payment of the Physician, introduced by Dr. Walter P. Anderton, New York: Your reference committee recommends that this resolution be disapproved because it involves the introduction of a third party, a party coming between the patient and the physician. Such practice has already been disapproved by the American Medical Association's House of Delegates.

5. Report of Bureau of Legal Medicine and Legislation in Report of Board of Trustees contained in Handbook, pages 77-107: Your reference committee commends the Board of Trustees on that part of its report covering the activities of the Bureau of Legal Medicine and Legislation. Particular attention is called to the study given medical licensure and the war and the model code of evidence adopted by the American Law Institute in which suggestions of the Bureau regarding the physician-patient relationship were included.

Your reference committee calls to your attention the large amount of work done by this bureau and is of the opinion that its activities could be further increased to the ultimate good of the medical profession.

6. Resolutions Dealing with the Creation of a Council or Committee on Medical Service and the Establishment of an Office of the American Medical Association in Washington, D. C., introduced by Drs. W. A. Coventry, Minnesota; F. S. Crockett, Indiana; Wells P. Eagleton,[1] New Jersey; Karl S. J. Hohlen, Nebraska; Arthur S. Risser, Oklahoma, and Barney J. Hein, Ohio. All these resolutions as well as the opinions expressed at the open meeting of your reference committee have been given full, earnest consideration. There appears one objective in all of them. Therefore your reference committee respectfully submits the following recommendation: A Council on Legal Medicine and Legislation shall be created at once, this Council to be composed of six members of the American Medical Association geographically distributed over the United States, the President, the Secretary, the immediate Past President and a member of the Board of Trustees of the American Medical Association. The six members from the American Medical Association, for the first year, shall be appointed by the Board of Trustees. Your reference committee recommends that the term of membership on the Council be three years, provided that at the end of the first year there be an election of two members for one year, two for two years and two for three years. After the first year the Board of Trustees shall present to the House of Delegates for election to membership on this Council a list of three nominees for each vacancy and the Chairman shall be selected by the Council from its elected members.

The duties of this Council shall be to make available all facts, data and medical opinions with respect to timely and adequate rendition of medical care to the American people and to keep informed the constituent state medical associations and component county medical societies of all proposed changes affecting medical care in the nation and also the activities of the Council. The present Bureau of Legal Medicine and Legislation shall be made a part of this Council, and the Board of Trustees shall provide adequate facilities for these activities.

Respectfully submitted,

THOMAS A. MCGOLDRICK, Chairman.
EDWIN S. HAMILTON.
LLOYD NOLAND.
PARKE G. SMITH.
WILLIAM R. MOLONY SR.

The first section of the report, referring to the Resolutions Expressing Approval of Federal Assistance to Wives and Children of Service Men as Outlined in Plan Under Consideration

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1. The resolution as introduced by Dr. Eagleton on June 7, 1943 was not published in full in THE JOURNAL last week. The resolution should read as follows:

RESOLUTION REQUESTING ESTABLISHMENT OF A LEGISLATIVE BUREAU OF THE AMERICAN MEDICAL ASSOCIATION IN WASHINGTON

With respect to the recommendation about to be introduced on behalf of the New Jersey delegation, we should mention that immediately following the annual meeting of the Medical Society of New Jersey held May 25 and 26, and pursuant to a resolution adopted at this meeting, a letter from the secretary of our society, containing the resolution regarding the establishment of a legislative bureau of the Association in Washington, together with a brief in support of this proposal, was sent to all of the listed Delegates of the Association, and since our arrival we have attempted to place in the hands of the other Delegates the material referred to.

We shall reserve further arguments in support of this proposal for the hearing before the reference committee, but we should like to emphasize that in making this recommendation it is not to be assumed that this in any wise is a reflection on the Bureau of Legal Medicine and Legislation. We believe from our experience and our relations with this Bureau that it is doing an excellent job within the setup now existing. The Legislative Committee of the Medical Society of New Jersey is particularly appreciative of the fine cooperation given by the Director of the Bureau, Mr. Holloway, in relation to some of our state problems, and has a high regard for his ability and judgment.

In referring this recommendation we should appreciate it if the Speaker will permit these remarks to be attached.

WHEREAS, It is increasingly apparent, in view of the present trends, as signally demonstrated by the introduction of bills in the Congress only last Thursday (June 3) to establish an "American Beveridge Plan" of Social Security, and as evidenced by the growing number and variety of measures being proposed in the Congress affecting public health and medical practice, that it is impossible for the Association, without representation in Washington, to present the opinion of the organized medical profession properly and adequately on these measures to the members and committees of the Congress and to the public, especially to the organized groups of labor, agriculture, industry and veterans; and to keep the component societies of the American Medical Association fully and promptly informed; therefore be it

Resolved, That, to accomplish these and related purposes, the House of Delegates requests the Board of Trustees of the Association to establish promptly a legislative bureau in Washington, this bureau to be under the direction of the Bureau of Legal Medicine and Legislation.

by Federal Children's Bureau, was adopted on motion of Dr. McGoldrick, seconded by Dr. James Q. Graves, Louisiana, and carried after discussion by Dr. Holman Taylor, Texas, and Dr. McGoldrick.

Dr. McGoldrick moved the adoption of the second section of the report of the reference committee, approving the Resolution Approving Proposed Changes in Regard to Medical Services of the American Red Cross in Disaster Relief. The motion was seconded by Dr. Arthur T. McCormack, Kentucky, and carried.

The substitute resolution suggested in the third section of the report of the reference committee was adopted instead of the Resolution Urging the Creation of a Federal Department of Health as introduced by Dr. Thomas A. McGoldrick, New York, on motion of Dr. McGoldrick, seconded by Dr. Charles E. Mongan, Massachusetts, and carried.

The fourth section of the report of the reference committee recommending the disapproval of the Resolution Requesting Changes in Administration of Federal Security Law so as to Assure Payment of the Physician was adopted on motion of Dr. McGoldrick, seconded by Dr. Arthur J. Bedell, Section on Ophthalmology, and carried.

Section 5 of the report of the reference committee, commending the report of the Board of Trustees covering the activities of the Bureau of Legal Medicine and Legislation, was adopted on motion of Dr. McGoldrick, seconded by Dr. Arthur T. McCormack, Kentucky, and carried after discussion by Drs. Olin West, Secretary; Arthur J. Bedell, Section on Ophthalmology; R. W. Fouts, Vice Speaker; G. Henry Mundt, Illinois, the Speaker and Dr. McGoldrick.

Dr. McGoldrick moved that the sixth section of the report of the reference committee, recommending the establishment of a Council on Legal Medicine and Legislation, be adopted. The motion was seconded by Dr. James R. Reuling Jr., New York. There was discussion by Drs. Wells P. Eagleton, New Jersey; James C. Sargent, Wisconsin; Walter E. Vest, West Virginia; A. W. Adson, Minnesota, and Barney J. Hein, Ohio, who offered the following amendment to the report of the reference committee: "The Board of Trustees is hereby directed to provide adequate funds for such council to maintain a permanent office, properly equipped and with adequate personnel, in our National Capital, in order that our membership can be more quickly informed of the legislative developments which concern the practice of medicine, so the public can be rendered better medical and health services."

Dr. William M. Skipp, Ohio, moved the adoption of the amendment, and the motion was seconded by Dr. Charles R. Meek, Ohio, and was discussed by Dr. Allen H. Bunce, Georgia; Speaker H. H. Shoulders; Dr. McGoldrick, and Dr. Walter B. Martin, Virginia. Dr. A. A. Walker, Alabama, moved that the amendment be tabled. The motion to table was carried by a rising vote of 114 for it to 21 against it.

After further discussion on the adoption of the sixth section of the report of the reference committee by Drs. Louis H. Bauer, New York; H. H. Shoulders, Speaker, and Walter B. Martin, Virginia, and Dr. McGoldrick, the motion to adopt the sixth section of the report of the reference committee carried and that section of the report was adopted.

On motion of Dr. McGoldrick, seconded by Dr. A. A. Walker, Alabama, and carried, the report of the reference committee was adopted as a whole.

The Speaker took the liberty of extending an expression of appreciation to the reference committee, and referred the report to the Board of Trustees.

Report of Reference Committee on Amendments to the Constitution and By-Laws

Dr. Walter E. Vest, Chairman, presented the following report:

Resolutions Requesting the Establishment of a Council on Medical Care: Your reference committee has carefully considered the resolution offered by Dr. Skinner, Section on Radiology, to amend the Constitution and By-Laws in order to create a Council on Medical Care. It recognizes the merit in the proposal and realizes fully the desirability of establishing such a council.

It recommends, therefore, that the first five paragraphs of the resolution be adopted and that the Board of Trustees be empowered to establish such a council as soon as feasible. Your reference committee recommends, therefore, that this council, when established, be named the Council on Medical Service rather than on Medical Care.

Inasmuch as the subject matter of paragraph 6 is covered by a number of resolutions referred to the Committee on Legislation and Public Relations, your reference committee deems it wise to offer no report on this paragraph.

Respectfully submitted,

WALTER E. VEST, Chairman.
ELBERT G. WOOD.
LOUIS A. BUIE.
KARL S. J. HOHLEN.
WILLIAM WESTON.

It was moved by Dr. Arthur T. McCormack, Kentucky, that this be referred to the Board of Trustees. The motion was seconded by Dr. James R. Miller, Connecticut, and carried after discussion by Drs. Arthur J. Bedell, Section on Ophthalmology; Edward H. Cary, Texas; E. H. Skinner, Section on Radiology; Arthur T. McCormack, Kentucky; Holman Taylor, Texas; Thomas A. McGoldrick, New York; H. H. Shoulders, Speaker; Walter E. Vest, West Virginia; Olin West, Secretary, and Henry C. Macatee, District of Columbia.

It was moved by Dr. Louis H. Bauer, New York, seconded by Dr. Robert E. Schlueter, Missouri, and carried, that the Board of Trustees be asked to take into consideration the various boards existing and just established and bring in some clarifying statement as to the status of all of them and, if necessary, recommend reconsideration of some of the actions taken today.

It was moved by Dr. R. W. Fouts, Vice Speaker, that the House rise from Executive Session and continue with the regular business. The motion was seconded by Dr. William R. Brooksher, Arkansas, and carried, and the House rose from Executive Session at 3:45 p. m.

Tuesday Afternoon—Continued

The House reconvened in regular session at 3:45 p. m. with Dr. H. H. Shoulders, Speaker, presiding.

Report of Reference Committee on Medical Education

Dr. Wilburt C. Davison, Chairman, presented the following report, in which the Reference Committee on Medical Education recommended that the Resolutions Opposing Legislative Recognition of Cultists introduced by Dr. J. F. Hassig, Kansas, be referred to the Board of Trustees.

In regard to these resolutions of the Kansas Medical Society, the objects of the American Medical Association are to promote the science and art of medicine and the betterment of public health. The Council on Medical Education and Hospitals believes that only graduates in medicine of approved medical schools should be licensed in the practice of medicine and the healing art. In view of the fact that the various states have legislative acts permitting the licensure of others than graduates of approved medical schools, the purpose of the resolutions of the Kansas Medical Society is beyond the functions and scope of the Council on Medical Education and Hospitals. At the present time there is being conducted a survey of seven osteopathic schools for purposes of comparison with seven approved medical schools in similar areas and further action on these resolutions should await the publication of the findings of this survey of the National Research Council.

It is therefore recommended by your reference committee that these resolutions be submitted to the Board of Trustees.

On motion of Dr. Davison, seconded by Dr. James Q. Graves, Louisiana, the report of the reference committee was adopted.

On motion of Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by Dr. Arthur T. McCormack, Kentucky, and carried after amendment, the House recessed at 3:50 p. m. to reconvene at 10 a. m., Wednesday, June 9.

Third Meeting—Wednesday Morning, June 9

The House of Delegates was called to order at 10 a. m. by the Speaker, Dr. H. H. Shoulders.

Report of Reference Committee on Credentials

Dr. G. Henry Mundt, Chairman, stated that a total of 170 delegates had been seated and added that he wished to repeat that all constituent state associations and all sections were fully represented and that the only delegates not in attendance are those representing Alaska, the Isthmian Canal Zone, the Philippines and Puerto Rico.

Roll Call

The Secretary called the roll and announced that more than a quorum had responded.

Presentation of Minutes

On motion of Dr. Arthur T. McCormack, Kentucky, seconded by Dr. H. B. Everett, Tennessee, and carried, the House dispensed with the reading of the minutes.

Report of Board of Trustees

Dr. Roger I. Lee, Chairman, stated that the Board of Trustees met with the members of the Reference Committee on Legislation and Public Relations and of the Reference Committee on Amendments to the Constitution and By-Laws, and the Board of Trustees took action, as follows:

On motion duly seconded and carried, the Board of Trustees proposed the formation of a Council on Medical Service and Public Relations to be composed of six members of the American Medical Association geographically distributed over the United States, with the President, the immediate Past President, the Secretary and a member of the Board of Trustees of the American Medical Association. For the first year the six members shall be appointed by the Board of Trustees. The term of membership of the Council shall be three years, provided that at the end of the first year there shall be an election of two members for one year, two for two years and two for three years. After the first year the Board of Trustees shall present to the House of Delegates for election to membership on this Council a list of three nominees for each vacancy. The Chairman shall be selected by the Council from its elected members. The duties of the Council shall be:

(*a*) To make available facts, data and medical opinions with respect to timely and adequate rendition of medical care to the American people; (*b*) to inform the constituent associations and component societies of proposed changes affecting medical care in the nation; (*c*) to inform constituent associations and component societies regarding the activities of the Council; (*d*) to investigate matters pertaining to the economic, social and similar aspects of medical care for all the people; (*e*) to study and suggest means for the distribution of medical services to the public consistent with the principles adopted by the House of Delegates, and (*f*) to develop and assist committees on medical service and public relations originating within the constituent associations and component societies of the American Medical Association.

In the exercise of its functions this Council, with the cooperation of the Board of Trustees, shall utilize the functions and personnel of the Bureau of Legal Medicine and Legislation, the Bureau of Medical Economics and the Department of Public Relations in the headquarters office.

The Board of Trustees shall provide adequate facilities for these activities and shall prepare necessary changes in the By-Laws to accommodate the purpose of this resolution.

The Board also voted to propose that the present Committee on Legislative Activities of the House of Delegates be discharged with a vote of thanks for its work.

Dr. Lee then presented the following suggestions:

The following changes and additions in the By-Laws are suggested by the establishment of a Council on Medical Service and Public Relations:

Add to chapter VII, section 3, "(*d*) Council on Medical Service and Public Relations."

Insert "of these" between "each" and "Council" in the third sentence of section 1 of chapter VIII, making it read:

"The term of office of the members of each of these Councils shall terminate in succession, one each year," etc.

Add to section 1 of chapter VIII a new paragraph, reading as follows: The Council on Medical Service and Public Relations shall include six members of the American Medical Association selected according to geographic distribution, with the President, the immediate Past President, the Secretary and a member of the Board of Trustees. For the first year the six members shall be appointed by the Board of Trustees. The term of membership of the Council shall be three years, provided that at the end of the first year there shall be an election of two members for one year, two for two years and two for three years. After the first year the Board of Trustees shall present to the House of Delegates for election to membership on this Council a list of three nominations for each vacancy. The Chairman shall be selected by the Council from its elected members.

Change the second part of section 2, chapter VIII, to read "and that on nomination by the respective Councils the Board of Trustees shall elect annually, to serve one year, a secretary of the Council on Medical Education and Hospitals and a secretary of the Council on Medical Service and Public Relations, and shall fix their salaries. (As amended, 1943.)"

Add a new section to chapter IX, as follows: "SEC. 4. COUNCIL ON MEDICAL SERVICE AND PUBLIC RELATIONS.—The functions of the Council on Medical Service and Public Relations shall be (1) to make available facts, data and medical opinions with respect to timely and adequate rendition of medical care to the American people; (2) to inform constituent associations and component societies of proposed changes affecting medical care in the nation; (3) to inform constituent associations and component societies regarding the activities of the Council; (4) to investigate matters pertaining to the economic, social and similar aspects of medical care for all the people; (5) to study and suggest means for the distribution of medical service to the public consistent with the principles adopted by the House of Delegates; (6) to develop and assist committees on medical service and public relations originating within the constituent associations and component societies of the American Medical Association.

"In the exercise of its functions this Council, with the cooperation of the Board of Trustees, shall utilize the functions and personnel of the Bureau of Legal Medicine and Legislation, the Bureau of Medical Economics and the Department of Public Relations in the headquarters office."

Dr. George W. Kosmak, New York, moved the adoption of the report of the Board of Trustees. The motion was seconded by Drs. Francis F. Borzell, Pennsylvania, Arthur S. Risser, Oklahoma, F. S. Crockett, Indiana, James C. Sargent, Wisconsin, and A. W. Adson, Minnesota, and carried.

It was moved by Dr. Arthur T. McCormack, Kentucky, seconded by Dr. H. B. Everett, Tennessee, and carried, that the amendments to the By-Laws contained in the report of the Board of Trustees be adopted.

Report of Reference Committee on Legislation and Public Relations

Dr. Thomas A. McGoldrick, Chairman, presented the following report:

1. Your reference committee, in possession of the facts relating to the By-Laws and their adoption by the House of Delegates, would implement and extend its report adopted yesterday by the statements in the report of the Board of Trustees, so that it will now read:

Your reference committee recommends the formation of a Council on Medical Service and Public Relations to be composed of six members of the American Medical Association geographically distributed over the United States, with the President, the immediate Past President, the Secretary and a member of the Board of Trustees of the American Medical Association. For the first year the six members shall be appointed by the Board of Trustees. The term of membership of the Council shall be three years, provided that at the end of the first year there shall be an election of two members for one year, two for two years and two for three years. After the first year the Board of Trustees shall present to the House of Delegates for election to membership on this Council a list of three nominees for each vacancy. The Chairman shall be selected by the Council from its elected members. The duties of the Council shall be:

(*a*) To make available facts, data and medical opinions with respect to timely and adequate rendition of medical care to the American people; (*b*) to inform the constituent associations and component societies of proposed changes affecting medical care in the nation; (*c*) to inform constituent associations and component societies regarding the activities of the Council; (*d*) to investigate matters pertaining to the economic, social and similar aspects of medical care for all the people; (*e*) to study and suggest means for the distribution of medical services to the public consistent with the principles adopted by the House of Delegates, and (*f*) to develop and assist committees on medical service and public relations originating within the constituent associations and component societies of the American Medical Association.

In the exercise of its functions this Council, with the cooperation of the Board of Trustees, shall utilize the functions and personnel of the Bureau of Legal Medicine and Legislation, the Bureau of Medical Economics and the Department of Public Relations in the headquarters office.

The Board of Trustees shall provide adequate facilities for these activities and shall prepare necessary changes in the By-Laws to accommodate the purpose of this report.

2. Resolution on Amendment to the Federal Compensation Act, introduced by Dr. Edward C. Podvin, New York: Your reference committee approves this resolution.

Dr. McGoldrick moved the adoption of the first section of the report of the reference committee as the report of the committee on that subject, and the motion was seconded by Dr. Felix J. Underwood, Mississippi.

Dr. Arthur T. McCormack, Kentucky, moved that the House reconsider the vote by which this section of the report of the reference committee was adopted on yesterday, and the motion was seconded by Dr. Walter E. Vest, West Virginia, and carried, after discussion by Drs. Lowell S. Goin, California; Louis H. Bauer, New York; Louis A. Buie, Section on Gastro-Enterology and Proctology; William Weston, Section on Pediatrics; R. W. Fouts, Vice Speaker, and H. H. Shoulders, Speaker, and Dr. McCormack.

Dr. R. W. Fouts, Vice Speaker, moved to table the section of the report of the reference committee adopted on yesterday. The motion was seconded by Dr. Arthur J. Bedell, Section on Ophthalmology.

On motion of Dr. Louis H. Bauer, New York, seconded by Drs. Arthur S. Risser, Oklahoma, and Walter E. Vest, West Virginia, and carried, the report of the reference committee as just presented was substituted for the sixth section of the report of that committee presented on yesterday.

It was moved by Dr. McGoldrick that the report of the reference committee as just presented be adopted, and the motion was seconded by Drs. Walter E. Vest, West Virginia, and James Q. Graves, Louisiana, and carried.

Dr. McGoldrick moved the adoption of the second section of the report of the reference committee approving the resolution introduced by Dr. Edward C. Podvin, New York. The motion was seconded by Dr. John Z. Brown, Utah, and carried.

Dr. McGoldrick moved that the Committee on Legislative Activities be discharged as recommended by the Board of Trustees. The motion was seconded by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, and carried, and the Committee on Legislative Activities was discharged with the thanks of the House of Delegates.

Report of Reference Committee on Amendments to the Constitution and By-Laws

Dr. Walter E. Vest, Chairman, stated that the matter the reference committee had under consideration had already been attended to in the report of the Reference Committee on Legislation and Public Relations.

Report of Reference Committee on Reapportionment

Dr. Arthur T. McCormack, Chairman, stated that the statesmanlike report of the Reference Committee on Amendments to the Constitution and By-Laws on yesterday disposed of the question of reapportionment and that there would be no report from the reapportionment committee, which would like to be discharged. Doubt as to that procedure was expressed because it is necessary to reapportion delegates every third year and this is the year for that purpose.

Dr. McCormack then stated that the reference committee reports progress.

Dr. Arthur J. Bedell, Section on Ophthalmology, moved that the report of the reference committee be referred back to the committee with the request that it bring in a report. The motion was seconded and carried after discussion by Drs. Arthur T. McCormack, Chairman of the reference committee; H. H. Shoulders, Speaker; Olin West, Secretary, and Walter E. Vest, West Virginia, and Dr. Bedell.

On motion of Dr. Louis H. Bauer, New York, seconded and carried, the House recessed from 10:50 a. m. until 11 a. m.

Report of Reference Committee on Reapportionment

Dr. Arthur T. McCormack, Chairman, presented the following report, which was adopted on motion of Dr. McCormack, seconded by Dr. Arthur J. Bedell, Section on Ophthalmology, and carried:

Your reference committee has made a study of this matter and recommends that the basis of the apportionment of delegates for the next three years be one delegate for each 965 members or fraction thereof, each constituent association being represented by at least one delegate irrespective of the number of members.

The By-Laws specifically provide that the total membership of the House of Delegates shall not exceed 175. The total membership of the Association on April 1, 1943, as recorded in the office of the Secretary, was 122,741.

On the basis of one delegate for each 965 members or fraction thereof, the total membership of the House will be 175. On this basis Connecticut, New York and Ohio will each gain a delegate and Kentucky, North Carolina and South Carolina will each lose a delegate.

The Speaker expressed to the members of the reference committees a word of thanks for the very excellent work they have performed at this session of the House.

ELECTION OF OFFICERS

The Speaker declared the next order of business to be the election of officers.

Election of President-Elect

Dr. Charles H. Phifer, Illinois, nominated for President-Elect Dr. Herman L. Kretschmer, Chicago, and the nomination was seconded by Drs. Arthur T. McCormack, Kentucky; James C. Sargent, Wisconsin; Allen H. Bunce, Georgia; Edward H. Cary, Texas; George W. Kosmak and Thomas A. McGoldrick, New York; Carl R. Steinke, Ohio; James Q. Graves, Louisiana; Walter E. Vest, West Virginia; Robert L. Anderson, Pennsylvania; Arthur J. Bedell, Section on Ophthalmology, and William R. Molony Sr., California; the five delegates

from Michigan as well as the delegates from Kansas, Minnesota, Missouri, New Jersey and Pennsylvania; Dr. Elbert G. Wood, Tennessee; the delegates from Iowa; Dr. James P. Wall, Mississippi; Dr. Roy B. Henline, Section on Urology; the delegates from Massachusetts, and Dr. Grover C. Penberthy, Section on Surgery, General and Abdominal.

Membership of House of Delegates

Present Number of Delegates	State	Number of Members 4/1/43	Number of Delegates Under 965 as a Basis of Apportionment
2	Alabama	1,595	2
1	Arizona	390	1
2	Arkansas	1,070	2
8	California	7,314	8
2	Colorado	1,151	2
2	Connecticut	1,937	3
1	Delaware	245	1
1	District of Columbia	924	1
2	Florida	1,429	2
3	Georgia	2,005	3
1	Idaho	320	1
9	Illinois	8,587	9
4	Indiana	3,344	4
3	Iowa	2,446	3
2	Kansas	1,560	2
3	Kentucky	1,886	2
2	Louisiana	1,551	2
1	Maine	751	1
2	Maryland	1,597	2
6	Massachusetts	5,542	6
5	Michigan	4,415	5
4	Minnesota	2,945	4
2	Mississippi	973	2
4	Missouri	3,254	4
1	Montana	436	1
2	Nebraska	1,147	2
1	Nevada	124	1
1	New Hampshire	546	1
5	New Jersey	4,178	5
1	New Mexico	272	1
19	New York	18,624	20
3	North Carolina	1,912	2
1	North Dakota	408	1
7	Ohio	6,783	8
2	Oklahoma	1,504	2
1	Oregon	932	1
11	Pennsylvania	9,922	11
1	Rhode Island	613	1
2	South Carolina	922	1
1	South Dakota	339	1
2	Tennessee	1,756	2
5	Texas	4,398	5
1	Utah	481	1
1	Vermont	385	1
2	Virginia	1,862	2
2	Washington	1,645	2
2	West Virginia	1,337	2
3	Wisconsin	2,587	3
1	Wyoming	195	1
1	Alaska	38	1
1	Hawaii	341	1
1	Isthmian Canal Zone	126	1
2	Philippine Islands	1,247*	2
1	Puerto Rico	450	1
1	U. S. Army	.....	1
1	U. S. Navy	.....	1
1	U. S. Public Health Service	.....	1
16	Scientific Sections	.....	16
	Total	122,741	175

* From records last received.

On motion of Dr. A. A. Walker, Alabama, seconded by Dr. Louis H. Bauer, New York, and carried, the nominations were closed.

It was moved by Dr. Arthur T. McCormack, Kentucky, that the Secretary be instructed to cast the ballot of the House for Dr. Herman L. Kretschmer for President-Elect, and the motion was seconded by several delegates and carried.

The Secretary cast the ballot of the House of Delegates for Dr. Herman L. Kretschmer, Chicago, for President-Elect of the American Medical Association for the ensuing year, and the Speaker declared Dr. Kretschmer so elected.

Election of Vice President

Dr. Walter F. Donaldson, Pennsylvania, nominated Dr. Edward L. Bortz, Philadelphia, and the nomination was seconded by Drs. H. B. Everett, Tennessee; Clyde L. Cummer, Section on Dermatology and Syphilology; William Weston, Section on Pediatrics, and Robert H. Hayes, Illinois.

Dr. Walter W. King, Colorado, nominated Dr. John W. Amesse, Denver, and the nomination was seconded by delegates from Wyoming, Illinois, Arkansas, Louisiana and Minnesota; Dr. Arthur S. Risser, Oklahoma; Dr. E. N. Roberts, Idaho; Dr. Grover C. Penberthy, Section on Surgery, General and Abdominal; Dr. James R. McVay, Missouri; Dr. E. H. Skinner, Section on Radiology, and Dr. John Z. Brown, Utah.

On motion of Dr. Clyde L. Cummer, Section on Dermatology and Syphilology, seconded by Dr. Arthur J. Bedell, Section on Ophthalmology, and carried, the nominations were closed and the tellers spread the ballot.

The Secretary announced that 155 votes had been cast out of a registration present of 158, of which Dr. Bortz received 54 and Dr. Amesse 101, and the Speaker declared Dr. Amesse elected Vice President of the American Medical Association for the ensuing year.

On motion of Dr. Walter F. Donaldson, Pennsylvania, seconded by Dr. Clyde L. Cummer, Section on Dermatology and Syphilology, and carried, the election of Dr. Amesse was declared unanimous.

Introduction and Address of Dr. Herman L. Kretschmer

Dr. Charles H. Phifer, Illinois, presented the new President-Elect, Dr. Herman L. Kretschmer, Chicago, who addressed the House as follows:

Mr. President, Mr. Speaker, Members of the House of Delegates of the American Medical Association: May I thank you from the bottom of my heart for electing me to this high office of President-Elect of the American Medical Association? I feel that this is the highest honor that can be paid to a member of the American Medical Association.

I am mindful of the fact that this honor carries with it many obligations, and you who represent more than 123,000 doctors in the United States I hope will find your confidence in me has not been misplaced.

You have had a long, trying session; I will not burden you with a long speech. I wish to take this opportunity to thank the House for the privilege it has given me to serve you as your Treasurer for ten years. I cannot let this opportunity go by without thanking the Board of Trustees. Since I began sitting in with its members ten years ago, the complexion of the Board has changed completely and there are not on that Board today any of the original men who were on the Board in 1933. Irrespective of the change in personnel in this Board, I wish all of you knew how honestly and sincerely and how conscientiously the Board performs its work. It turns over many of the problems that you present to it with great deliberation, having always in mind what is best for American medicine.

And last, but not least, I wish to pay my respects to and to thank Dr. Olin West, whom somebody called yesterday the great grand man of American medicine. He has always been most cooperative; he has always been most helpful, and it was a joy and a privilege to work with him.

Again, my sincerest thanks to the members of the House for electing me to this exalted position. I thank you.

Election of Secretary

Dr. E. E. Barlow, Arkansas, nominated Dr. Olin West, Chicago, to succeed himself as Secretary of the American Medical Association and the nomination was seconded by Drs. William Weston, Section on Pediatrics; Robert A. Peers, Cali-

fornia; Wells P. Eagleton, New Jersey; George M. Kosmak, New York; Stephen E. Gavin, Wisconsin; James Q. Graves, Louisiana; Walter W. King, Colorado; Henry Cook Macatee, District of Columbia; H. B. Everett, Tennessee; Thomas A. McGoldrick, New York; Walter E. Vest, West Virginia; Olin H. Weaver, Georgia; William A. Mulherin, Georgia; Felix J. Underwood, Mississippi; George P. Johnston, Wyoming; E. H. Cary, Texas; Mather Pfeiffenberger, Illinois; Burt R. Shurly, Section on Laryngology, Otology and Rhinology; J. F. Hassig, Kansas; Robert E. Schlueter, Missouri; Charles E. Mongan, Massachusetts; W. A. Coventry, Minnesota; Frank E. Reeder, Michigan; F. S. Crockett, Indiana; John H. Fitzgibbon, Oregon; Ivan Fawcett, West Virginia; John Z. Brown, Utah; Forrest J. Pinkerton, Hawaii; Virgil E. Simpson, Kentucky; Deering G. Smith, New Hampshire; N. J. Nessa, South Dakota; Louis H. Bauer, New York; Francis F. Borzell, Pennsylvania, and several other delegates from Pennsylvania, Indiana and Delaware.

Dr. William Weston, Section on Pediatrics, moved that the nominations be closed, and the motion was seconded by Dr. James Q. Graves, Louisiana, and carried.

On motion of Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by Dr. Wells P. Eagleton, New Jersey, and carried, the Speaker of the House cast the ballot of the House for Dr. West as Secretary for the ensuing year and declared Dr. West so elected.

Election of Treasurer

Dr. Roger I. Lee, Chairman, in behalf of the Board of Trustees, placed in nomination for Treasurer of the American Medical Association Dr. Josiah J. Moore, Chicago. The nomination was confirmed on motion of Dr. James Q. Graves, Louisiana, seconded by Dr. Edwin S. Hamilton, Illinois, and carried. The Speaker declared Dr. Josiah J. Moore, Chicago, elected Treasurer of the American Medical Association for the ensuing year.

Election of Speaker of House of Delegates

With Dr. R. W. Fouts, Vice Speaker, in the chair, Dr. H. B. Everett, Tennessee, nominated Dr. H. H. Shoulders, Nashville, Tenn., to succeed himself as Speaker of the House of Delegates of the American Medical Association, and the nomination was seconded by Drs. James Q. Graves and Leon J. Menville, Louisiana; Arthur T. McCormack, Kentucky; Louis A. Buie, Section on Gastro-Enterology and Proctology; Burt R. Shurly, Section on Laryngology, Otology and Rhinology; Wells P. Eagleton, New Jersey; J. F. Hassig, Kansas; Frank E. Reeder, Michigan, and delegates from Illinois. The nominations were closed on motion of Dr. Louis A. Buie, Section on Gastro-Enterology and Proctology, seconded by Dr. George P. Johnston, Wyoming, and carried.

On motion of Dr. Arthur T. McCormack, Kentucky, seconded by Dr. James Q. Graves, Louisiana, and carried, the Secretary cast the ballot of the House for Dr. H. H. Shoulders, Nashville, Tenn., for Speaker of the House of Delegates of the American Medical Association for the ensuing year and the Vice Speaker declared Dr. Shoulders so elected.

Election of Vice Speaker of House of Delegates

The Speaker resumed the chair and called for nominations for Vice Speaker of the House of Delegates.

Dr. A. W. Adson, Minnesota, nominated for Vice Speaker of the House of Delegates of the American Medical Association Dr. R. W. Fouts, Omaha. The nomination was seconded by Drs. James Q. Graves, Louisiana, Edwin S. Hamilton, Illinois, Stephen E. Gavin, Wisconsin, Walter W. King, Colorado, and Robert E. Schlueter, Missouri. On motion of Dr. James Q. Graves, Louisiana, seconded by Dr. Roy B. Henline, Section on Urology, and carried, the nominations were closed.

Dr. E. G. Wood, Tennessee, moved that the Speaker cast the ballot of the House for Dr. Fouts to succeed himself as Vice Speaker of the House of Delegates. The motion was seconded by Dr. James Q. Graves, Louisiana, and carried. The Speaker cast the ballot of the House for Dr. R. W. Fouts, Omaha, to succeed himself as Vice Speaker of the House of Delegates of the American Medical Association for the ensuing year and declared Dr. Fouts so elected.

Election of Trustees

Dr. Arthur T. McCormack, Kentucky, nominated Dr. William F. Braasch, Rochester, Minn., to succeed himself as a member of the Board of Trustees for a term of five years. The nomination was seconded by Drs. A. W. Adson, Minnesota; E. H. Cary, Texas; Louis A. Buie, Section on Gastro-Enterology and Proctology; Stephen E. Gavin, Wisconsin; Thomas A. McGoldrick, New York; James M. Hayes, Minnesota; James R. McVay, Missouri; R. K. Packard, Illinois; F. S. Crockett, Indiana, and Robert E. Schlueter, Missouri. On motion of Dr. James Q. Graves, Louisiana, seconded by Dr. Arthur J. Bedell, Section on Ophthalmology, and carried, the nominations were closed.

It was moved by Dr. Arthur T. McCormack, Kentucky, seconded and carried, that the Secretary cast the ballot of the House for Dr. William F. Braasch to succeed himself for a term of five years as a member of the Board of Trustees of the American Medical Association, and the Speaker declared Dr. Braasch so elected, after the Secretary cast the ballot.

Dr. G. Henry Mundt, Illinois, nominated as a member of the Board of Trustees to succeed himself for a term of five years Dr. Ernest E. Irons, Chicago. The nomination was seconded by Drs. Thomas P. Murdock, Connecticut; Clyde L. Cummer, Section on Dermatology and Syphilology; Thomas A. McGoldrick, New York; George P. Johnston, Wyoming; Deering G. Smith, New Hampshire; Felix J. Underwood, Mississippi; Robert E. Schlueter, Missouri, and Olin H. Weaver, Georgia. A motion by Dr. Olin H. Weaver, Georgia, seconded by Dr. Sam E. Thompson, Texas, to close the nominations was carried.

The Secretary cast the ballot of the House for Dr. Ernest E. Irons, Chicago, to succeed himself as a member of the Board of Trustees of the American Medical Association for a term of five years, on motion of Dr. Clyde L. Cummer, Section on Dermatology and Syphilology, seconded by Dr. James Q. Graves, Louisiana, and carried, and the Speaker declared Dr. Irons so elected.

Nomination for Standing Committees

NOMINATIONS BY DR. JAMES E. PAULLIN, PRESIDENT

Dr. James E. Paullin, President nominated Dr. John H. O'Shea, Spokane, Wash., to succeed himself as a member of the Judicial Council for a term of five years.

On motion of Dr. Arthur T. McCormack, Kentucky, seconded by Dr. Felix J. Underwood, Mississippi, and carried, the nomination of Dr. O'Shea was confirmed.

Dr. Paullin nominated Dr. Edward L. Bortz, Philadelphia, to succeed himself as a member of the Council on Scientific Assembly for a term of five years.

On motion of Dr. Walter F. Donaldson, Pennsylvania, seconded by Dr. Clyde L. Cummer, Section on Dermatology and Syphilology, and carried, the nomination of Dr. Bortz was confirmed.

NOMINATION BY THE BOARD OF TRUSTEES

Dr. Roger I. Lee, Chairman, stated that the Board of Trustees wished to nominate Dr. Russell L. Haden, Cleveland, to succeed himself as a member of the Council on Medical Education and Hospitals for a term of seven years.

The nomination of Dr. Haden was confirmed on motion of Dr. Barney J. Hein, Ohio, seconded by Dr. Walter E. Vest, West Virginia, and carried.

Election of Affiliate and Associate Fellows

NOMINATIONS FOR AFFILIATE FELLOWSHIPS APPROVED BY THE COUNCIL ON SCIENTIFIC ASSEMBLY

The Secretary presented the following nominations for Affiliate Fellowship, properly approved by the Council on Scientific

Assembly, which, on motion of Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by Dr. James C. Sargent, Wisconsin, and carried, were confirmed:

Abbot, E. Stanley, Wayland, Mass.
Ash, Rachel L., San Francisco.
Ashcroft, Felix E., Glendale, Calif.
Bach, James A., Milwaukee.
Baldwin, George E., Green Lake, Wis.
Barton, Lyman G., Plattsburg, N. Y.
Bassett, Alice H., Boston.
Caldwell, John D., Lake Worth, Fla. (nominated from Pennsylvania)
Champion, J. A., Colton, Calif.
Cloyd, Augustus D., Omaha.
Copeland, Charles E., Charleston, W. Va.
Danell, Karl A., Phoenix, Ariz. (nominated from Illinois)
Davis, Stephen R., Lynn, Mass.
Drexel, A., Milwaukee.
Findley, Palmer, Omaha.
Fraser, Homer E., New Lebanon, N. Y.
George, McLeod M., Kittredge, Colo.
George, William A., Loma Linda, Calif.
Gutmann, John H., Albany, N. Y.
Hale, J. W., Waco, Texas.
Hampsey, A. R., Pittsburgh.
Hare, C. H., Boston.
Hartman, W. F., Swoope, Va.
Herbst, Frank, Kansas City, Mo.
Hood, Jacob J., Cicero, Ill.
Hopkins, William T., Lynn, Mass.
Hoyt, Henry A., Watertown, N. Y.
Hurd, Lee M., Rowayton, Conn.
Imrie, C. T., Rochester, N. Y.
Jackson, V. B., Washington, D. C.
Janko, N., New York.
John, F. D., Chicago.
Johnson, Fred G., Iron River, Wis.
Johnston, James, Los Angeles.
Jordan, John F., Peabody, Mass.
Lazelle, Horace G., Thetford, Vt. (nominated from California).
Libby, J. H., E. Weymouth, Mass.
Loring, Robert G., Concord, Mass.
Mace, Lewis S., Los Gatos, Calif.
McCarthy, H. L., Los Angeles.
McCaw, John A., Denver.
McCleave, Thomas C., Berkeley, Calif.
McDaniel, W. Y., Taylors, S. C.
Morfit, John C., St. Louis.
Moser, William, Brooklyn.
Neptune, John W., Salina, Kan.
Nifong, Frank G., Columbia, Mo.
O'Neil, C. H., Deckerville, Mich.
Patterson, E. J., Pittsburgh.
Pfingst, A. O., Louisville, Ky.
Pinkston, Omar W., Kansas City, Mo.
Poorman, Bert A., Kansas City, Mo.
Pursell, F. J., Los Angeles.
Rosenheim, Paul J., New York.
Schultz, Louis, Chicago.
Scott, George D., New York.
Sessions, S. Kenosha, Anna, Ill. (nominated from Indiana).
Sheridan, Joseph P., Richmond Hill, L. I., N. Y.
Smith, Arthur M., Oakland, Calif.
Spaid, Charles J., Springfield, Mass.
Staats, H. H., Charleston, W. Va.
Stauffer, Nathan P., Philadelphia.
Steinach, William, New York.
Sturge, Edgar, Scranton, Pa.
Sullivan, John J., Dorchester, Mass.
Sutherland, Charles G., Rochester, Minn.
Sutton, Richard L., Kansas City, Mo.
Thomason, H. E., Kansas City, Mo.
Wahn, Henry, New York.
Wanous, Ernest Z., Minneapolis.
Weill, Nathan J., Pittsburgh.
Yerxa, Charles W., Los Angeles.

NOMINATIONS FOR ASSOCIATE FELLOWSHIP

The Secretary presented the following nominations for Associate Fellowship approved by the Judicial Council or by the section indicated, which were confirmed on motion of Dr. Clyde L. Cummer, Section on Dermatology and Syphilology, seconded by Dr. E. E. Barlow, Arkansas, and carried:

NOMINATIONS OF AMERICAN MEDICAL MISSIONARIES APPROVED BY THE JUDICIAL COUNCIL

Abbott, Donald H., Juliaca, Peru, S. A.
Rouhe, O. J., Kamina, Belgian Congo.
Weber, Harry J., Addis Ababa, Ethiopia.

NOMINATIONS FOR ASSOCIATE FELLOWSHIP APPROVED BY THE SECTIONS INDICATED

EXPERIMENTAL MEDICINE AND THERAPEUTICS

Flosdorf, Karl W., Lansdowne, Pa.

PATHOLOGY AND PHYSIOLOGY

Johnson, Victor E., Chicago.

Place of 1946 Annual Session

Dr. Roger I. Lee, Chairman, Board of Trustees, presented the following statement:

The Board of Trustees received no invitations up to this morning but during the morning an invitation was received, as follows:

"The California Medical Association takes pleasure in extending to the American Medical Association an invitation to hold its 1946 convention in the city of San Francisco.

"We look forward to a convention held in a time of victorious peace in which there can be shown the part medicine played in winning the war.

"Cordially yours,

LOWELL S. GOIN, President-Elect, and Delegate to American Medical Association.
DWIGHT L. WILBUR, Delegate.
LYELL C. KINNEY, Delegate.
HENRY S. ROGERS, Delegate.
EDWARD N. EWER, Delegate.
WILLIAM H. KIGER, Delegate.
ROBERT A. PEERS, Delegate.
WILLIAM R. MOLONY SR., Delegate."

On motion of Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by Dr. John Z. Brown, Utah, and Dr. Felix J. Underwood, Mississippi, and carried, the House voted that the 1946 session of the American Medical Association shall be held in San Francisco. The Speaker declared San Francisco the place of the 1946 annual session of the American Medical Association.

Expressions of Appreciation

VOTE OF THANKS TO SPEAKER

With the Vice Speaker in the Chair, a vote of thanks to the Speaker for his very efficient and splendid service was extended on motion of Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, seconded by Dr. Arthur J. Bedell, Section on Ophthalmology, and carried.

The Speaker resumed the Chair.

EXPRESSION OF APPRECIATION TO THE NATIONAL BROADCASTING COMPANY

It was moved by Dr. Arthur T. McCormack, Kentucky, seconded by Dr. Felix J. Underwood, Mississippi, and carried, that the House express itself as being grateful to the National Broadcasting Company for its cooperation in making the broadcasting program of the American Medical Association possible.

EXPRESSION OF APPRECIATION TO BRIG. GEN. FRED W. RANKIN

Dr. Arthur T. McCormack, Kentucky, moved that the House of Delegates express to the retiring President, Brig. Gen. Fred W. Rankin, its gratitude for the very arduous service he has rendered along with his responsibilities in the Army and wish him good in war and in peace. The motion was seconded by Drs. Clyde L. Cummer, Section on Dermatology and Syphilology; Felix J. Underwood, Mississippi, and Wells P. Eagleton, New Jersey, and carried.

Telegram from President of Southern Medical Association

Dr. Felix J. Underwood, Mississippi, presented the following telegram, which was ordered filed in the records of the American Medical Association:

"In your deliberations in behalf of the nation's health and the promotion of our war efforts, may I convey to the officers and the members of the House of Delegates of the greatest medical association in the world the fullest cooperation and greetings from the Southern Medical Association. Love to all. Harvey F. Garrison."

Response of Brig. Gen. Fred W. Rankin to Expression of Appreciation of House

Dr. Fred W. Rankin, Retiring President, addressed the House as follows:

Mr. Speaker and Members of the House: It is a great satisfaction to me to express to you my appreciation for this generous motion which you have just passed and to tell you that the two years which I have served you in the capacity of President-Elect and President of this Association have been very happy although arduous years, and I can assure you that I have taken the responsibility seriously and that as time goes on I hope that I may be able to continue to do whatever is in my power to forward the progress of the American Medical Association. Thank you.

On motion of Dr. E. E. Barlow, Arkansas, seconded and carried unanimously, the House adjourned sine die at 12:05 p. m.

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Changes in Status.—H. R. 2935 has passed the House, making appropriations for the Department of Labor, the Federal Security Agency and related independent agencies for the fiscal year ending June 30, 1944. Among other sums appropriated this bill makes available to the Children's Bureau $4,000,000 for grants to states to provide, in addition to similar services otherwise available, medical, nursing and hospital maternity and infant care for wives and infants of enlisted men in the armed forces of the United States under plans developed and administered by state health agencies and approved by the chief of the Children's Bureau. No part of any appropriation for the Children's Bureau, the bill provides, may be used to promulgate or carry out any instruction, order or regulation relating to the care of obstetric cases which discriminates between persons licensed under state law to practice obstetrics. The bill also makes available to the Public Health Service the sum of $3,500,000 for the training of nurses. H. R. 2536 has been reported to the Senate, a bill to provide for the promotion of vocational rehabilitation of persons disabled in industry or otherwise.

Bill Introduced.—H. R. 2947, introduced by Representative Coffee, Washington, proposes to authorize an appropriation of $18,000,000 for the fiscal year ending June 30, 1945 [sic] and for each fiscal year thereafter such sums as may be necessary to enable each state to provide medical care to recipients of public assistance under the titles of the Social Security Act relating to old age assistance, aid to dependent children and aid to the blind. The term "medical care" is defined to include only such services, supplies and appliances for the diagnosis, cure, mitigation, treatment or prevention of disease, or for the purpose of affecting any structure or function of the body, as may be approved in regulations of the Social Security Board.

STATE MEDICAL LEGISLATION

Alabama

Bill Introduced.—S. 302 proposes the creation of a mental hygiene clinic to advise and consult with individual citizens of the state who recognize or feel that they have mental problems about which they may be concerned threatening to affect their own mental health, to consult and advise with the relatives or guardian of persons about whom they may be interested, anxious or concerned on the account of some suspected or approaching or threatening mental health, to admit such person for examination, observation, study, consultation, diagnosis, opinion and to advise as to what course shall be followed in the care, planning for and treatment of such individuals.

California

Bills Enacted.—A. 257 has become chapter 1098 of the Laws of 1943. It amends the health and safety code by requiring the state department of public health to seek out children with impaired sense of hearing, especially in the primary and grammar grades of all schools. It shall employ for such diagnostic investigation only trained otologists. This law does not give the department power to require medical or physical examination of children without consent of the parent or guardian, however. A. 686 has become chapter 1061 of the Laws of 1943. It amends the Health and Safety Code by providing, among other things, that the state director of health shall be a doctor of medicine eligible to license to practice in California, with at least one year's postgraduate training in public health and a minimum of five years' practical experience as an administrative officer in a well organized health department.

Connecticut

Bill Enacted.—H. 902 has become chapter 308 of the Laws of 1943. It provides that licensed physicians serving in the armed forces of the United States shall not be required to renew their certificates until the next renewal period immediately following discharge from such service or the renewal period following the second year after the cessation of hostilities, whichever is first.

Florida

Bills Enacted.—S. 264 was approved, May 31. It provides that any member of the armed forces of the United States on active duty who, at the time of entering on active duty, was in good standing with any administrative board (which includes the state board of medical examiners) of the state of Florida and was entitled to practice or engage in his profession shall be kept in good standing by such administrative board without registering, paying dues or fees or performing any other act on his part to be performed, as long as he is a member of the armed forces on active duty and for a period of six months after his discharge therefrom. S. 301 was approved, June 11. It provides an appropriation of $20,000 to provide for the vocational rehabilitation of disabled persons who are physically incapable of earning a livelihood but whose disabilities appear to be amenable to treatment or surgery and could be removed or materially diminished to the extent that such persons would then be physically able to engage in remunerative employment. S. 367 was approved, June 11. It provides for the creation of a Florida board of massage to examine persons desiring to practice massage, defined as the art of body massage, either by the hand or by mechanical apparatus, oil rubs, gymnastics, colon irrigations, hot and cold packs, cabinet baths (excluding fever therapy), tub, shower, sitz and similar baths. S. 616 was approved, June 6. It authorizes state, county and municipal health officers to commit persons within their respective jurisdictions who are infected with venereal disease to quarantine and compulsory treatment in any hospital within the state whenever in their judgment it is necessary to protect the public health. S. 641 was approved, June 11. It amends the medical practice act by providing that the clerk of the circuit court shall not accept for recording and shall not record any license to practice medicine dated after the effective date of the act unless the same has been presented to him for recording on or before sixty days after the date of the license and provided further that no license to practice medicine dated prior to the effective date of the act may be recorded by the clerk of the circuit court unless it has been presented to him for recording on or before the expiration of six months from and after the effective date of the act or within sixty days after the date of recertification thereof by the board of medical examiners.

Illinois

Bill Introduced.—H. 704, to amend the law relating to nursing homes, proposes that such home will not be denied a license because it is conducted in accordance with the tenets of any well recognized church or denomination and the treatment therein is confined to prayer and spiritual means as an exercise or enjoyment of religious freedom. The inspection of such institutions would be confined to the adequacy of the facilities to furnish such service and the sanitary and fire protection facilities thereof.

South Carolina

Bill Enacted.—H. 141 has become act 354 of the Laws of 1943. It provides that receipted hospital bills shall be an exemption under the state income tax law.

Wisconsin

Bills Enacted.—A. J. R. 53 has become chapter Res. No 38 of the Laws of 1943. It is a resolution that the state board of health, state board of medical examiners, state board of dental examiners and the several professional societies be requested to ask all practicing physicians and dentists to ascertain, as far as possible, whether patients are now or are on any subsequent date veterans of the present war and, if so, to preserve case histories thereof for at least six years after the date of the last professional service rendered. A. 611 has become chapter 304 of the Laws of 1943. It amends the law relating to the licensing of nurses by providing for the addition thereto of regulations for the licensing of "licensed attendants" who are authorized to perform simple procedures in the physical care of a patient and such other procedures as may be directed by the attending physician.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ALABAMA

Governor Approves Four Year Medical School.—"The Medical College of Alabama" will be established under a bill recently signed by the governor which appropriates a million dollars for land, buildings and equipment and $366,750 for each of the fiscal years ending Sept. 30, 1944 and Sept. 30, 1945. The governor is to appoint a building commission to select a site for the school, which will operate as a part of the University of Alabama, University. The bill also authorized the creation of a "Physicians Advisory Board," consisting of five physicians who shall be members in good standing of the state medical association and shall reside in different sections of the state. This board will cooperate with the commission in its activities toward the construction of the school. The bill provides that the board of trustees of the University of Alabama is authorized to establish a scholarship for each county in the state in the amount of $400 a year for the benefit of one resident of each county, payable from the annual state appropriation to the school of medicine.

CALIFORNIA

State Board Changes Time for Examinations. — The state board of medical examiners at its recent meeting in Los Angeles decided that it would give written examinations to candidates for licensure whenever a sufficient number of such applications are on file. The action was to aid in every possible way in the war effort. In the past the board has held four written examinations a year.

Orders License Restored. — Newspapers recently reported that the license of Dr. Thomas D. Wyatt, Redding, to practice medicine has been restored by a writ of mandate issued by Superior Judge Edward Murphy in San Francisco. The physician, who has twice had his license revoked for performing allegedly illegal operations, brought action against the state board of medical examiners, claiming that it had exceeded its jurisdiction in revoking his license the second time.

Opening for Physician.—The Los Angeles County Civil Service Commission is seeking a doctor of medicine to conduct venereal disease clinics and perform other venereal disease work in the Los Angeles County Health Department. Men under 55 years of age who have graduated from an accredited medical school and who have completed at least one year's internship in an approved hospital are eligible for the position, which offers a salary of $296 a month. The examination will be held in Los Angeles and may also be held in other parts of the country if warranted by the applications filed. Information may be obtained from the office of the commission, Room 102, Hall of Records, Los Angeles 12, California. Applications must be filed on or before Wednesday, July 7.

IDAHO

Annual Registration Due July 1.—All practitioners of medicine and surgery holding licenses to practice in Idaho are required by law to register annually on July 1 with the Department of Law Enforcement and at that time to pay a fee of $2. If a licentiate has not paid the annual registration fee by October 1 his license can be canceled but will be restored within five years thereafter on payment of the delinquent fees and a $10 penalty. If a license has been canceled for more than five years it can be reinstated only on the payment of $25 and on the licentiate's passing an examination, the nature of which shall be determined by the Department of Law Enforcement.

ILLINOIS

Society News.—Dr. Walter E. Foley, Davenport, Iowa, was elected president of the Iowa-Illinois Central District Medical Association at its meeting in Rock Island, May 27. He succeeds Dr. David B. Freeman, Moline. Other officers include Lieut. Col. Herbert P. Miller, M. R. C., of Rock Island now stationed at Fort Sheridan, vice president, Dr. James Dunn, Davenport, secretary and Dr. Florens E. Bollaert, East Moline, treasurer.

Chicago

Chicago Alumni Awarded Citations. — On June 12 the University of Chicago awarded citations as "distinguished alumni" to fifty-five members of the college classes prior to 1911. Among those honored are Drs. Morris Fishbein, Arno B. Luckhardt, Franklin C. McLean and Rollin T. Woodyatt.

Hektoen Institute for Medical Research.—On July 2, the eightieth birthday of Dr. Ludvig Hektoen, the Hektoen Institute for Medical Research of Cook County will be dedicated in his honor. Dr. Morris Fishbein, Editor of THE JOURNAL, will preside at the ceremonies, which will be held at 10 a. m. The building, formerly the McCormick Institute for Infectious Diseases, has been purchased by the board of Cook County commissioners. A portion of the building is already in use. A plaque bearing a bas-relief of Dr. Hektoen will be unveiled in the entrance of the institute. The presentation will be made by Clayton F. Smith, president of the board of commissioners, and Dr. Karl Meyer will receive it on behalf of the institute. The board of trustees for the Hektoen Institute for Medical Research of Cook County established by the Cook County Board comprises:

Mr. Smith.
Dr. Raymond W. McNealy, president of staff, Cook County Hospital.
Col. Albert A. Sprague.
Dr. Meyer, medical superintendent, Cook County Hospital and other Cook County institutions.
Frank Bobrytzke, chairman, Hospital Committee, Cook County Board of Commissioners.
William McFettridge, international president, Building Service Employees Union.
Brig. Gen. Frank Schwengel, president, Seagram Distilleries, Inc.
Dr. Fishbein.
Dr. Andrew C. Ivy, scientific director, Naval Medical Research Institute, Bethesda, Md.
Dr. Raymond B. Allen, executive dean of Colleges of Pharmacy, Dentistry and Medicine and dean of College of Medicine, University of Illinois.
Dr. Italo F. Volini, chairman of the Department of Medicine, Loyola University School of Medicine.
Dr. Marshall Davison, chairman, Department of Surgery, Cook County Hospital.
Dr. Maurice L. Blatt, head of Children's Division, Cook County Hospital.
Lieut. Col. Samuel J. Hoffman, M. C., chief of medical personnel, Sixth Service Command.
Dr. James P. Simonds, professor of pathology, Northwestern University Medical School.
Dr. Aaron Arkin, chairman, Department of Medicine, Cook County Graduate School of Medicine.
Dr. Hans Popper, director of laboratories, Cook County Hospital.
Dr. Frederick Steigmann, director of therapeutics, Cook County Hospital.

LOUISIANA

University News.—At a meeting of the History of Medicine Society of Tulane University, April 15, the Rudolph Matas Award for the best paper on the history of medicine presented before the society was given to Mr. Charles M. Wilson, senior in the medical school, for his paper on "American Contributions to Neurosurgery." The I. I. Lemann Award for the best discussion before the society was presented to Mr. Leonard K. Knapp, junior in the medical school, for his discussion on aviation medicine. The presentations were made by Dr. B. Bernard Weinstein, New Orleans, instructor in gynecology in the medical school. Harold Cummins, Ph.D., New Orleans, professor of microscopic anatomy, was the principal speaker, discussing "Extra Medical Interests of Charles Richet, Arthur Conan Doyle and Dr. Krandon."

New Orleans Venereal Disease Campaign.—A citywide venereal disease campaign committee was recently formed in New Orleans after a drive against prostitution when 820 women were arrested and examined between July 14, 1942 and Feb. 1, 1943. The group had a reported infection rate of 80 per cent. The work of the new committee is financed through contributions by the city, individuals, civic agencies and commercial firms. The facilities of practically every medium of communication were made available. According to the *War Letter*, although the main drive of the campaign was scheduled originally for only two weeks, the campaign committee decided to expand and continue for a longer period. The members of the committee were asked to continue to serve for several more months, and activities directed at education of "the man in the street" were intensified.

Grants to Medical School.—According to the *Tulanian*, a fund of $30,000 for the establishment of a biologic chemistry division of the Tulane University of Louisiana School of Medicine was bequeathed to the university by Miss Aimee Creagh Denis. The fund is designed to establish the Willey Lover Denis Fellowship in memory of Miss Denis's sister Willey L. Denis, a biochemist. Three grants for work in tropical medicine and cancer research have been made to the university. A grant of $10,000 for the making of a colored educational

motion picture on amebic dysentery has been given by the Wyeth pharmaceutical house of Philadelphia. The picture will be used in teaching and training physicians, students and nurses. A gift of $8,500 has been given the department by the G. E. Searle pharmaceutical house of Chicago, and an unspecified amount has been given to the department of surgery for the study of cancer by Theodore Brent, New Orleans, president of the Mississippi Delta Shipping Company.

MINNESOTA

Annual Journal-Lancet Lecture.—On May 19 Dr. Ernst Gellhorn, professor of physiology, University of Illinois College of Medicine, Chicago, delivered the third annual Journal-Lancet Lecture at the University of Minnesota Medical School, Minneapolis. Dr. Gellhorn's subject was "Experimental Studies on Conditioned Reactions and Their Implications for Medical Problems."

Narcotic Prescriptions Forged.—Helen Geneva Rudd, Minneapolis, was recently ordered by Federal Judge Gunnar H. Nordbye to the U. S. Public Health Service Hospital at Lexington, Ky., for treatment of drug addiction. Mrs. Rudd had pleaded guilty to four counts of an indictment charging her with forging medical prescriptions for narcotic drugs. She was placed on probation for three years on condition that she be taken to the hospital at Lexington and that she be not released until the medical authorities of the hospital pronounced her cured. An investigation by the Federal Bureau of Narcotics disclosed that Mrs. Rudd's addiction dates back about twenty years; she pleaded guilty in 1934; after two years she violated her probation and was taken to the Women's Reformatory at Alderson, W. Va., where she served fourteen months.

MONTANA

State Medical Meeting.—The sixty-fifth annual session of the Medical Association of Montana will be held in Billings, July 7-8, under the presidency of Dr. Ernest D. Hitchcock, Great Falls. Among the speakers will be:

Dr. William M. Bane, Denver, Treatment of Eye Diseases by the General Practitioner.
Dr. Laurence L. Howard, Great Falls, Hematuria and Its Significance.
Dr. Glenn A. Carmichael, Butte, Management of Breech Presentation.
Dr. Irving J. Bridenstine, Terry, A Discussion of Some of the Newer Drugs.
Dr. Wayne Gordon, Billings, Gastritis: Diagnosis and Clinical Significance.
Major Alexander P. Ormond, M. C., A. U. S., Great Falls, The Wartime Spread of Communicable Diseases.
Dr. Harry O. Drew, Billings, The Sex Hormones and Their Relationship.
Dr. Halivard M. Blegen Jr., Missoula, Gastrocolic Fistula.

Dr. E. Thompson Bell, professor of pathology, University of Minnesota Medical School, Minneapolis, will conduct a panel discussion Thursday on "Diseases of the Kidney and Hypertension." He will also address the annual banquet on "Diseases of the Kidney."

NEW JERSEY

Medical School Plan Rejected.—The state board of education on June 11 denied an application of a corporation known as the Essex College of Medicine and Surgery, Newark, for permission to confer the degree of doctor of medicine, according to the New York *Times*. The action was said to be taken on the ground that the school "is only a paper institution." The *Times* further reported that the state board of education unanimously approved a report of a committee stating that the Essex College of Medicine and Surgery was at present inadequately financed, lacked library facilities and had no faculty.

NEW YORK

Report of Emergency Food Commission.—A four point nutrition program was recommended in the first report of the Emergency Food Commission of the State of New York, June 7. The program covering food preservation, protection of milk and egg supply, research for new foods and nutritional guidance, is discussed in the report of the commission with a view to showing what improvements have already been accomplished and what must be made in the future to maintain the public health and morale in the face of a necessary shift to a wartime diet lacking the usual amount of animal products.

Expansion of Health Teaching.—The New York State Board of Regents has authorized the expansion of teaching on health and safety in the senior high schools, the new program to be given one unit of credit. The new regulations covering health teaching make it the duty of the trustees and boards of education to provide a satisfactory program in health and safety in accordance with the needs of all pupils from the kindergarten and primary through the senior high school grades. In the junior and senior high school grades, health must be taught by teachers with approved preparation. *Health News* announces that a member of each faculty with such preparation must be designated as health coordinator in order that the entire faculty may cooperate in realizing the potential health teaching values of the school program.

New York City

Chinese Blood Bank.—On June 5 the first Chinese blood bank in the city was opened under the auspices of the American Bureau for Medical Aid to China. The bank will take blood from Chinese-Americans and send plasma by air to Chinese soldiers. The medical staff members of the bank are all Chinese, have had special training in this work and will eventually go to China as a unit to set up the first blood bank there.

Institute for Forensic Medicine.—The planning of an Institute of Forensic Medicine in New York was announced by Mayor La Guardia at the opening session of the annual assembly of the International College of Surgeons, June 14. The proposed institute will serve as a center for all matters pertaining to medical jurisprudence. Arrangements are being made to acquire the land for the building, which will be situated near Bellevue Hospital. The new center will be operated in conjunction with one or two medical schools of the city, the chief medical examiner's office and all of the city's hospitals. It will have its own morgue, laboratory, dissection room, classrooms and chemical division.

OHIO

Outbreak of Smallpox.—Wholesale vaccination was carried out recently in a number of counties in Ohio because of the 97 cases of smallpox which were reported to the state department of health between January 1 to May 15. The state medical journal reported that a recent outbreak of the disease in Steubenville and Jefferson County created a serious problem not only in Ohio but also in West Virginia, because a large number of residents of Ohio are employed in the steel mills in West Virginia. In Steubenville, a city of about 35,000 population, 28,186 persons were vaccinated in a period of three weeks and many thousands of residents in other parts of Jefferson County were vaccinated during the same period of time. The intensive program of vaccination became necessary when several families, believing that they had chickenpox, exposed a large number of residents to smallpox. Concentrated programs of vaccination were conducted in other counties where the disease occurred and Cleveland is now considering one in the schools and industry.

Training in Health Education at Cleveland Museum.—The Cleveland Health Museum announces a course of instruction from August 9 to September 4 for twenty-seven students in health education from the University of North Carolina, Chapel Hill, who will work as museum interns. The students will do laboratory work and gain field experience in the methods of health education, especially in health exhibits. Among the students are seventeen persons who were awarded fellowships by the U. S. Public Health Service from a grant made available by the W. K. Kellogg Foundation. The four week course at the museum is part of a three months supervised field experience required in addition to nine months' academic training in order to obtain a master of science in public health. One student comes from Lima, Peru. The course will be conducted by Dr. Bruno Gebhard, Cleveland, who is director of the Cleveland Health Museum and an associate in health education, Western Reserve University School of Medicine. Besides instruction in the principles and methods of visual health education, the students will gain practical experiences in three work units. The first one deals with ideas, facts, figures and manuscripts. Another unit is centered around designing, constructing and budgeting of exhibits. And the third work unit will handle placement, publicity, visitors' reaction and follow-up. The museum's facilities including the workshops, the loan service, traveling exhibits and the film library, and of course the museum's own exhibits will be used for this training.

PENNSYLVANIA

Changes in Health Officers.—Dr. Thomas M. Thompson, Philipsburg, district medical officer for district 9, consisting of Clearfield, Clinton and Centre counties, has been transferred to district 4, composed of Bucks and Montgomery counties, with headquarters in Norristown. Dr. George R. Good, Altoona, district medical officer for district 10, will have temporary charge of district 9. District 10 includes Huntingdon, Blair and Cambria counties. Dr. Thompson succeeds the late Dr. Howard W. Hassell, Bridgeport.

Philadelphia

Dr. Fay Acting Dean at Woman's Medical College.—Marion S. Fay, Ph.D., since 1935 professor of physiologic chemistry at the Woman's Medical College of Pennsylvania, has been appointed acting dean for the duration of the war to fill the vacancy caused by the commissioning of Dr. Margaret D. Craighill as major in the medical corps of the army. Dr. Fay began her services as acting dean on May 28 when Major Craighill reported to the Surgeon General's Office in Washington, D. C. Dr. Fay was born in New Orleans. She graduated at Newcomb College, New Orleans, in 1915. She received her master's degree at the University of Colorado, Boulder, in 1922 and her Ph.D. at Yale University, New Haven, in 1925. She was associate professor at the University of Texas Medical Branch, Galveston, when she joined the Philadelphia faculty.

Symposium on Poliomyelitis.—The Philadelphia chapter of the National Foundation for Infantile Paralysis is sponsoring a series of eight lectures on poliomyelitis for physicians, nurses and physical therapists. The lectures, which opened on June 14, are given on Mondays and Thursdays in the Philadelphia County Medical Society. Among the speakers are:

Dr. Don W. Gudakunst, New York, medical director, National Foundation for Infantile Paralysis, Introduction and Chemotherapy.
James H. Jones, Ph.D., assistant professor of physiologic chemistry, University of Pennsylvania School of Medicine, Nutrition.
Dr. Pascal F. Lucchesi, acting assistant director of public health of Philadelphia, Diagnostic Signs.
Dr. Kenneth F. Maxcy, professor of epidemiology, Johns Hopkins University School of Hygiene and Public Health, Baltimore, Epidemiology.
Dr. Howard A. Howe, associate professor of epidemiology, Johns Hopkins University School of Hygiene and Public Health, Neuropathology.
Herman Kabat, Ph.D., pharmacologist at the National Institute of Health, Bethesda, Md., Neurophysiology.
Dr. DeForest P. Willard, professor of orthopedics, the Medico-Chirurgical College Graduate School of Medicine, University of Pennsylvania, Orthopedic Surgery.

TEXAS

Baylor Graduates Last Class in Dallas.—Arrangements are being made for the transfer of Baylor University College of Medicine from Dallas to Houston under the direction of Dr. Walter H. Moursund Sr., dean. At the recent graduation of the last class of Baylor in the Dallas school, Dr. Ernst W. Bertner, acting director of the M. D. Anderson Hospital for Cancer Research, Houston, delivered the address on "A New Era in Medicine."

Conference on Hay Fever and Allergy.—A special conference on hay fever and allergy met at the University of Texas Medical Branch, Galveston, June 13, under the leadership of Dr. William L. Marr, director of the allergy clinic of the medical school, and Dr. Ralph Bowen, Houston. The conference has been organized to coordinate the work of Texas physicians who are interested in the problems of hay fever and allergy in the Southwest.

WASHINGTON

Annual Registration Due July 1.—All practitioners of medicine and surgery holding licenses to practice in Washington are required by law to register annually on or before July 1 with the Director of Licenses and at that time to pay a fee of $5, thereby renewing their licenses for one year. Failure on the part of a licentiate timely to register and pay the required fee renders his license to practice invalid, but his license may be reinstated on written application to the director and on payment of the delinquent fees and a penalty of $10.

WISCONSIN

State Medical Meeting.—The one hundred and second annual meeting of the State Medical Society of Wisconsin will be held in Milwaukee, September 13-15, under the presidency of Dr. Russell M. Kurten, Racine. According to a preliminary program, a feature of the meeting will be a symposium on the liver and one on peptic ulcer. Round table breakfasts will be devoted to the following subjects: bedside medicine and newer drugs, prevention and treatment of wound infections, improvisations to cope with medical emergencies in the home, precautions in telephone prescribing, medication for common skin diseases, and the use and abuse of sulfonamide drugs. A separate program has been arranged for hospital superintendents, chiefs of staff, secretaries of staff, hospital administrators and nurses, the program to cover a discussion of recent legal decisions of importance to physicians in hospitals, problems concerning graduate education and employment of nurses, interns and residents; authorization required for professional procedures, Wisconsin Hospital and medical payments plan; professional accounting; relationship between the lay hospital board and the hospital staff, a small hospital library and interhospital relations.

GENERAL

Institute for Hospital Administrators.—The eleventh Chicago Institute for Hospital Administrators will be held at the Knickerbocker Hotel, August 30-September 10, under the auspices of the American Hospital Association and in cooperation with the American College of Hospital Administrators, American College of Surgeons, American Medical Association and the Chicago Hospital Council. The institute will be under the direction of Dr. Malcolm T. MacEachern, Chicago, and lectures, demonstrations, and round tables will be based on practical means to help solve present-day hospital problems. A minimum of fifty registrants must be assured by July 15 to hold the institute. Additional information may be obtained from Miss Agnes M. McCann, secretary of the institute for hospital administrators, American Hospital Association, 18 East Division Street, Chicago.

Infantile Paralysis Foundation Expands Board of Trustees.—The recent addition of nine members to the board of trustees of the National Foundation for Infantile Paralysis brings the total number of trustees to thirty-nine. The late Mr. Edsel Ford has been succeeded on the board by one of his sons, Lieut. Henry Ford II. Other new members are Benjamin F. Fairless, president, U. S. Steel Corporation, Pittsburgh; Edward S. French, president, Boston and Maine Railroad, Boston; Walter S. Gifford, president, American Telephone and Telegraph Company, New York; Clarence G. Michalis, chairman and trustee, Seamen's Bank for Savings, New York; Bayard F. Pope, chairman, Marine Midland Corporation, New York; David Sarnoff, president, Radio Corporation of America, New York; Juan T. Trippe, president, Pan American Airways, New York, and Joseph E. Uihlein Sr., vice president, Joseph Schlitz Brewing Company, Milwaukee.

CORRECTIONS

Connor Odor Adsorber.—In a letter from Dr. Levin, published in the Queries and Minor Notes on May 15, reference was made to the Connor Odor Adsorber. This is manufactured by the W. B. Connor Engineering Corporation instead of the General Electric Company, as stated in the letter.

Place of Annual Session.—On page 507 of THE JOURNAL for June 19 a statement appears to the effect that the annual session of the American Medical Association in 1944 is scheduled to be held in New York and the annual session for 1945 in St. Louis. That statement is in error in that the annual session scheduled for 1944 is to be held in St. Louis and the annual session for 1945 is to be held in New York. At the meeting of the House of Delegates in Chicago on June 9 San Francisco was selected as the place of meeting for 1946. As stated in THE JOURNAL, these designations are subject to final action of the Board of Trustees and depend on special conditions that may be created by the war.

Government Services

Dr. Spencer Appointed Director of Cancer Institute

Roscoe Roy Spencer, medical director, U. S. Public Health Service and assistant chief of the National Cancer Institute, Bethesda, Md., has been appointed chief of the institute, effective August 31. He will succeed Carl Voegtlin, Ph.D., who is retiring as director. Dr. Spencer was born in Virginia, July 28, 1888. He graduated at Johns Hopkins University School of Medicine, Baltimore, in 1913 and in the same year joined the U. S. Public Health Service. He was sanitary adviser to the Navy Department, 1917-1918, officer in charge of bubonic plague suppressive measures at Pensacola, Fla., 1919-1921, and in charge of investigations of Rocky Mountain spotted fever, 1922-1929. In 1930, a year after he with Ralph R. Parker, Ph.D., Hamilton, Mont., wrote a volume on spotted fever, Dr. Spencer received a gold medal from the American Medical Association for his discovery of a preventive vaccine for the disease. Dr. Voegtlin will retire from the public health service. From 1913 to 1939 he was chief of the division of pharmacology of the National Institute of Health. In 1938 he was appointed the first director of the National Cancer Institute.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 15, 1943.

New Measures in the Campaign Against Tuberculosis

The minister of health, Mr. Ernest Brown, has announced the fact that, in spite of the war, the number of deaths from all forms of tuberculosis in 1942 was 25,500 less than that in the two previous years 1940 and 1941, when it was 28,000. The figure of last year was the same as that for the prewar year of 1938, which was the lowest on record, and it was well under half of that for 1918. Who would have dared, asked the minister, to hope that the tuberculosis position in the third year of the war would be so good? But he said that there was a small rise of about 3 per cent in the number of new cases last year, and under the trying conditions of total war there can be no assurance that the death rate from tuberculosis will not rise again. The Ministry of Health has therefore decided to intensify the offensive against pulmonary tuberculosis. It is doing two things: introducing the newest method of chest examination by miniature radiography and starting a scheme of special allowances which will enable those who require treatment for pulmonary tuberculosis, in the interest of public health as well as their own, to undertake it without anxiety about those whom they support.

MASS MINIATURE RADIOGRAPHY

The weak point in the attack on tuberculosis has been inability to get the individual case soon enough. Early detection is vital. For this mass miniature radiography was recommended by a special committee of the Medical Research Council under the chairmanship of Lord Dawson, appointed at the minister's request to investigate the wartime increase in tuberculosis. A detailed scheme covering the application of miniature mass radiography in all its aspects has been drawn up and brought before all the local health authorities. There must be some delay in obtaining delivery of the highly technical machines necessary and it may take at least a year before a network of mass miniature radiography units covers the populous areas of the country. It is hoped that eventually this radiography will become part of routine health examinations. The aim is to detect pulmonary tuberculosis before symptoms have appeared and thus give the best prospect of cure. So far only about three out of every thousand examined have been found tuberculous. The machines can photograph chests at the rate of more than a hundred an hour, using ordinary cinema film. Each negative, only about 1 inch square, is projected on a screen and examined by experts. In forty to fifty of each thousand there is some sign which indicates the advisability of further investigation. A full size x-ray film and other tests may then show that the suspicion is unfounded, or perhaps the need for another test after an interval.

THE NEW ALLOWANCES

The object of the ministry is that any one in whom miniature radiography discloses active tuberculosis should undergo treatment without delay, even though the disease has not reached a disabling stage or, indeed, has caused him to feel unwell or unfit for work. For this reason the government has decided to provide special maintenance allowances. These will enable the person to give up work for a time and undergo treatment while there is every prospect of recovery. Another reason for introducing these new allowances is that tuberculosis stands alone as a social disease of prolonged infectivity. In the interests of the community, especially in wartime, it calls for special measures to check its spread and consequent drain on man and woman power. The new allowances will comprise what will be called "maintenance allowances" based on a standard scale and without any test as to means. To these may be added, at the discretion of the local health authority where they are satisfied as to need, extra grants toward meeting standing commitments which the patient could not otherwise meet, such as high purchase instalments, high rent or rates, insurance premiums and school fees.

Damages for Negligence Awarded Against a Physician for Awaiting the Pathologist's Report Before Treating Diphtheria

An unusual case in which damages for negligence were awarded against a physician has occurred in the high court. On Sept. 5, 1940 the physician was called to a boy who complained of his throat. The physician did not at first suspect diphtheria and therefore he did not take a swab until the 13th. It was four days before he received the pathologist's report and the boy was not removed to a hospital until the 17th, when he was hopelessly ill with diphtheria. Antitoxin was given at once but death took place two days later. The judge found the physician negligent at least from September 9, when he ought to have seen symptoms which the boy's mother had seen on the previous day. The judge commented on the fact that the physician was in charge of a case of diphtheria for eleven days and gave no treatment for the disease. He also criticized his omission to do anything while awaiting the pathologist's report for four days. It was impossible to say that with earlier treatment the boy would have recovered or that the death was attributable to the treatment. But there was a good chance of recovery if the patient had been properly treated.

An unusual feature of the case was that no evidence was called for the defense. The physician contended, doubtless under legal advice, that he should not be found guilty of negligence in the absence of medical evidence. The judge dissented from this submission and said "The trusting public would be hopelessly at the mercy of the medical profession" if this argument held. He also commented on the silence of the physician, saying "It is the first time in my experience that a medical man charged with negligence has refrained from going into the witness box to explain, excuse or throw light on what has happened." He awarded $300 damages with costs. However, notice of appeal against this judgment was given, pending which a stay of execution was granted.

Commenting on the case, the *Lancet* says that it would be a pity if it became a convention that a defendant because he is a physician must go into the witness box and call evidence, though defendants of other callings would in a like situation be allowed to claim their right to plead that no sufficient case had been made for them to rebut. It would be lamentable if the physician's vocation exposed him to the forensic duty of clearing himself whenever his professional judgment is challenged. Negligence of a physician is normally established giving proof of what a reasonably careful one would do in the circumstances. It will be a surprise to the profession if such proof can be given by lay witnesses or if the court itself can so far abandon the rule of judicial ignorance as to declare of its own unaided knowledge the standard of due professional care. The fact that a physician did not treat a patient who died of diphtheria for the disease before the pathologist's report was available need not be automatic proof of negligence.

Simplification in Prescribing Spectacle Lenses Desirable

The war effort has hindered the production of spectacle lenses as of many other things. Because of the difficulty the Council of British Ophthalmologists suggest a simplification of the prescription of lenses. It recommends (1) discontinuance of prescribing lenses in steps less than 0.25 diopter, (2) reducing

the prescribing of prisms to a minimum and (3) in the higher ranges, say above 4 diopters, reducing the prescription of lens powers in steps less than 0.5 diopter to a minimum. These recommendations were adopted in the army some time ago, and their adoption in civilian practice would materially aid the situation.

BRAZIL

(From Our Regular Correspondent)

May 25, 1943.

An Experiment in the Prevention of Endemic Goiter

In 1939 Dr. A. Lobo Leite described a goitrogenous region in the central part of the state of Minas Gerais, comprising the counties of Ouro Preto, Congonhas and Lafaiete, a region completely free from Chagas disease (American trypanosomiasis) despite the vicinity of several areas stricken by this disease. In this region the endemic disease presents a complex of symptoms similar to that described in other countries: goiter, cretinism, deafmutism, mental debility. Of all the elements of this complex, goiter is the most frequent although the most benign, and many cases of goiter are not accompanied by any other element of the complex. Cases of psychoses are relatively common, which is perhaps related to the complex. The medium and small diffuse enlargements of the thyroid are the most frequent, nodular goiter appearing as a rule only in adult age. The recent diffuse goiter is very responsive to treatment with iodine. A representative sample of 2,574 school children has been routinely examined for the detection of goiter, and the thyroids classified according to the Marine scale. Of the total, 1,437 (55.8 per cent) had type 1 thyroid (normal), 920 (35.7 per cent) had type 2 thyroids (small goiter) and 217 (8.4 per cent) had type 3 thyroid (medium goiter). Types 2 and 3 taken together represented 44.2 per cent of the sample. The whole of this goitrogenous region lies about 3,500 feet above sea level, and the soil belongs to the primitive era, the huronian system. The region is clearly deficient in iodine, as it is easy to see from the average amount of this element in the water supply and in the principal vegetables used as food: water 0.18 microgram per liter, beans 6.0 micrograms per kilogram, potatoes 5.1 micrograms per kilogram, rice 2.0 micrograms per kilogram, corn 1.4 micrograms per kilogram and manihot less than 1.0 microgram per kilogram.

With the cooperation of the school authorities, a prophylactic station has been established with the main purpose of distributing to the school children confections with 10 mg. of potassium iodide each, twice a week. Dr. Lobo Leite considers this dose rather high but intended with it to render possible the formation of an iodine reserve as well as for treatment at the same time. This high dosage is intended also to compensate for the school vacation time (from January to March). Between April and December 1941, 855 Kg. of confections was distributed, corresponding to 1,983 Gm. of potassium iodide to about 5 thousand school children. The work continued during the year 1942, and at the end of the year Dr. Lobo Leite took a new survey of the situation, the results of which will soon be published.

BCG Immunization in Brazil

The BCG method of tuberculosis immunization has been in course of development in Brazil since August 1927, when the Ataulpho de Paiva Foundation began to prepare the immunizing material and to vaccinate a part of the infants of the Federal District (city of Rio de Janeiro). With 17,573 vaccinations performed in 1942 in the city of Rio de Janeiro (about 50 per cent of the total number of live births), the number of children immunized in the city has reached the total of 123,493. Of this total 32,589 children, or 26.39 per cent, have been medically controlled in clinics. So large a percentage of controlled children in BCG immunization has not been attained in any other place. Of the total of 17,573 children vaccinated in 1942, the immunization was performed by spontaneous request from the families of 5,526, or 31.45 per cent, which shows the acceptance of this prophylactic measure by the population. In November of last year an agreement was reached between the Ataulpho de Paiva Foundation and the federal government to extend the supply of the immunizing material to several of the states of Brazil through the action of the Tuberculosis Division of the National Department of Health. During the year 1942, 62,180 doses of the vaccinating material were sent to several states of Brazil.

Brief Items

A few months ago the Brazilian government created a Book of Merit in which to inscribe the names of the greatest living men of the country. The honor is considered exceptional, and the few names up to now included in the book have been selected with utmost care. One of these names is that of Dr. Vital Brazil, the founder of the Butantan Institute of São Paulo, one of the pioneer laboratories in the study of ophidiology and the preparation of antiophidic serums. Dr. Vital Brazil is now director of the Vital Brazil Institute of Niteroi, state of Rio de Janeiro, a great laboratory where many biologic products for medical therapy are prepared.

Dr. Raul L. da Cunha, president of the University of Rio de Janeiro, and Drs. Alfredo Monteiro and H. Annes Dias, professor of surgery and of medicine at the medical school of the same university, came back recently from a trip to Santiago do Chile, where they attended the commemoration of the centenary of the foundation of the University of Santiago. These three Brazilian medical men received the degree of professors honoris causa from that university.

Dr. Emilio Corbiere, from Buenos Aires, recently spent a few days in Rio de Janeiro as a representative of several medical institutions of Argentina. Dr. Corbiere, who came in a mission of scientific interchange, delivered medical lectures at the National Academy of Medicine and before the Medical Association of Rio de Janeiro.

A special course in war traumatology has been established at the medical school of the University of Rio de Janeiro. This course is under the direction of Dr. Barbosa Vianna, professor of traumatology and orthopedic surgery at the same school.

A School of Aviation Medicine has been founded by the Ministry of Aeronautics. The new school, located at Afonsos Field, near Rio de Janeiro, is under the direction of Col. Dr. Godinho Santos.

Marriages

WILLIAM JAMES MCKINNON, Maxton, N. C., to Miss Corinne Louise Stimax of Westminster, Md., in New York, May 29.

LUTHER BRADFORD WATERS JR., Lynchburg, Va., to Miss Margaret Mae Hughes of Colerain, N. C., in Norfolk, May 17.

CHARLES DICK ROLLINS, Henderson, N. C., to Miss Martha E. Laney of Camden, Ark., at Walla Walla, Wash., May 14.

WILLIAM HARVEY PATRICK, Chocowinity, N. C., to Miss Nellie Evangeline Guy in Clements, Md., May 16.

FRANK L. ENGEL, New Haven, Conn., to Miss Mildred Goldfaden of Norwich in New York, May 25.

HAROLD GREELEY NOYES, New York, to Mrs. Bessie Clements Murrelle in Greenwich, Conn., May 22.

CHARLES FREDERICK DOWNING, Nashville, Tenn., to Miss Juliette McNeil in Knoxville, May 8.

JOHN FRANCIS MCGRATH, New York, to Mrs. Inez Thorpe Ford of Georgetown, S. C., May 28.

SANDOR ALEXANDER NADAS to Miss Mary Elizabeth McClearen, both of Boston, recently.

FRANCIS C. ANDERSON, Cadillac, Mich., to Miss Dorothy Mae Larson at Ann Arbor recently.

Deaths

Isador Henry Coriat ✠ Boston; Tufts College Medical School, Boston, 1900; instructor of neurology at his alma mater from 1914 to 1916; instructor, supervising analyst and training analyst, Boston Psychoanalytic Institute; neurologist to the medical advisory board and contract surgeon in neuropsychiatry for the U. S. Army during World War I; specialist certified by the American Board of Psychiatry and Neurology, Inc.; member, twice president, 1924-1925 and 1936-1937, and vice president, 1935-1936, of the American Psychoanalytic Association; member and vice president, 1931-1932, of the American Psychopathological Association; member of the International Psychoanalytic Association and vice president, 1936-1937; president of the Boston Psychoanalytic Society from 1930 to 1932 and 1941-1942; member of the New England Society of Psychiatry, American Psychiatric Association, Boston Medical History Club, Boston Society of Neurology and Psychiatry and the Massachusetts Psychiatric Society; assistant and first assistant physician, Worcester (Mass.) Insane Hospital from 1900 to 1905; neurologist on the staff of the Boston City Hospital from 1905 to 1919 and the Mount Sinai Hospital from 1905 to 1914; consulting neurologist to the Chelsea Memorial and Beth Israel hospitals from 1919 to 1928; neuropsychiatrist to Forsyth Dental Infirmary from 1913 to 1929; collaborating editor of the *Psychoanalytic Review* and the *Journal of Abnormal Psychology*; collaborator for psychoanalytic terms for Dictionary of Psychology; aged 67; died, May 26, of coronary thrombosis.

Isabella Coler Herb ✠ Hubbard Woods, Ill.; Northwestern University Woman's Medical School, Chicago, 1892; Secretary of the Section on Pathology and Physiology of the American Medical Association from 1915 to 1918 and chairman of the Section on Miscellaneous Topics from 1921 to 1924; retired on June 7, 1941 as head anesthetist of Presbyterian Hospital and clinical professor of surgery at Rush Medical College; continued her association with the hospital as anesthetist emeritus; assisted Dr. Lawrence H. Prince, now of Kiln, Miss., in developing the open drop method of ether administration; later served on the staff of the Mayo Clinic, Rochester, Minn., for five years as anesthetist and pathologist; after further graduate study in Europe, carried on research in bacteriology under a grant from the American Medical Association and as an associate of Dr. Ludvig Hektoen; in 1909 gave up her work in pathology and started again to specialize as an anesthetist, joining the staffs of both Presbyterian Hospital and Rush Medical College, Chicago; the first woman appointed to the staff of Presbyterian Hospital and was the anesthetist who first administered ethylene gas at actual operations; author of chapters on anesthesia in several textbooks on surgery; aged 74; died, May 28, in the Presbyterian Hospital, Chicago, of heart disease.

Andrew Charles Smith, Portland, Ore.; Cooper Medical College, San Francisco, 1877; Second Vice President in 1906, and a member of the House of Delegates of the American Medical Association in 1902 and 1909; member and past president of the Oregon State Medical Society; past president of the Portland Academy of Medicine and the Multnomah County Medical Society; fellow of the American College of Surgeons and chairman of the Oregon unit from 1928 to 1934; at one time assistant surgeon in the U. S. Army; first president and for twenty years active on the state board of health; formerly a member of the state senate and house of representatives; at one time associate in surgery at the University of Oregon Medical School; a member of the draft examining board during World War I; helped organize the Coffey Hospital, the county hospital and the Portland Open Air Sanitarium; on the staffs of the Good Samaritan and St. Vincent's hospitals; first president of the Medical Arts Building Company and the Oregon Good Roads Association; once president of the Hibernia Bank of Portland; aged 86; died, April 12, of bronchopneumonia.

Lida Stewart Cogill, Upper Darby, Pa.; Woman's Medical College of Pennsylvania, Philadelphia, 1890; member of the Medical Society of the State of Pennsylvania; fellow of the American College of Surgeons; professor of obstetrics at her alma mater from 1923 to 1938 and since 1938 emeritus professor; chief in obstetrics at the West Philadelphia Hospital for Women from 1906 to 1930, when it merged with the Woman's Hospital, Philadelphia, where she had been chief in obstetrics from 1930 to 1938 and on her retirement in the latter year became consultant in obstetrics; aged 74; died, April 18, of acute uremia.

Frank R. Borden ✠ Lieutenant Colonel, U. S. Army, retired, Charlotte, N. C.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1902; Ph.G., Northwestern University School of Pharmacy, Chicago, 1895; School of Aviation Medicine in 1942; served during World War I; commissioned a major in the medical corps of the U. S. Army in 1920 and retired in 1937 for disability in line of duty with the rank of lieutenant colonel; aged 68; died, March 28, in the Veterans Administration Facility, Augusta, Ga., of pneumonia.

Leo Chrysostom Mudd ✠ Lieutenant Colonel, U. S. Army, retired, San Francisco; St. Louis University School of Medicine, 1907; Army Medical School, Washington, D. C., 1911; commissioned a first lieutenant in the medical corps of the U. S. Army in 1911, became a captain in 1914, a major in 1917 and retired in 1918 for disability in line of duty; returned to active duty from Oct. 5, 1918 to Feb. 5, 1919; under a special act in 1930 was made a lieutenant colonel; served during World War I; aged 62; died recently of coronary thrombosis and pyelonephritis.

Glenn Llewellyn Baker, Rib Lake, Wis.; Northwestern University Medical School, Chicago, 1911; aged 58; died, April 11, in St. Joseph's Hospital, Marshfield, of chronic myocarditis and coronary thrombosis.

Stanley Walter Blazejewski ✠ Wilkes-Barre, Pa.; Baltimore Medical College, 1907; member of the surgical staff of the Hudson Coal Company; aged 63; a member of the staff of the Wilkes-Barre General Hospital, where he died, April 12, of coronary heart disease.

Dell Scotland Bowman, Akron, Ohio; University of Pennsylvania Department of Medicine, Philadelphia, 1893; past president of the Summit County Medical Society and vice president of the Ohio State Medical Association; for many years served as alienist for the Summit County Courts; formerly trustee of the Children's Home; visiting physician to the Edwin Shaw Sanatorium from Aug. 1, 1915 to Sept. 1, 1920; aged 79; on the staff of the City Hospital, where he died, April 18, of pneumonia.

Ola M. Buckman, Toledo, Ohio; Cleveland University of Medicine and Surgery, 1897; served on the staff of the Flower Hospital; aged 77; died, April 6, of carcinoma of the ovaries.

Charles Armstrong Byrne, Hatfield, Mass.; Long Island College Hospital, Brooklyn, 1894; member of the Massachusetts Medical Society; aged 80; died, April 3, of bronchopneumonia and arteriosclerosis.

Robert Emmet Camfill, Springfield, Mass.; Harvard Medical School, Boston, 1895; aged 70; for many years on the staff of the Mercy Hospital, where he died, April 7, of an appendical abscess.

William Stanley Carter ✠ West Hazleton, Pa.; Jefferson Medical College of Philadelphia, 1909; since 1938 trustee of the Hazleton (Pa.) State Hospital; West Hazleton borough school physician; physician for the Lehigh Valley Coal Company; organized a crippled children's society in 1924; aged 57; died, April 15, of heart disease.

Eugene George Charbonneau ✠ East Orange, N. J.; Detroit College of Medicine, 1901; formerly served on the staff of St. James Hospital, Newark; aged 64; died, April 9, in St. Mary's Hospital, Orange, of heart disease.

Sylvan Coombs ✠ Chicago; Rush Medical College, Chicago, 1891; fellow of the American College of Surgeons; on the staff of the Grant Hospital; formerly on the staffs of the Cook County, Henrotin and Columbus hospitals; aged 74; died, April 8, of carcinoma of the prostate.

James William Cox, Flomaton, Ala.; Medical Department of Tulane University of Louisiana, New Orleans, 1895; aged 69; died, April 7.

William T. Craft, Brunswick, Neb.; Omaha Medical College, 1902; aged 73; died, April 6, in Niobrara of heart disease.

William Clarke Craig, Ridgewood, N. J.; Jefferson Medical College of Philadelphia, 1907; served in the Medical Corps of the U. S. Army during World War I; a member of the New Jersey National Guard; on the staff of St. Joseph's Hospital, Paterson; aged 58; died, April 12, of cirrhosis of the liver.

Albert Harlan Currie, Los Angeles; Bennett Medical College, Chicago, 1911; member of the California Medical Association; served as a captain in the medical corps of the U. S. Army during the World War; aged 56; died, April 19, of heart disease.

Arter Wayne Deal, Lewistown, Mont.; College of Physicians and Surgeons, Baltimore, 1903; member of the Medical Association of Montana; formerly member and president of the Montana State Board of Medical Examiners; chief of staff of St. Joseph's Hospital; appointed surgeon to the Great Northern Railway in 1917; aged 61; died, March 13, of paralysis agitans.

James Harvey Donnelly, Troy, N. Y.; Boston University School of Medicine, 1897; member of the Medical Society of the State of New York; on the staff of the Samaritan Hospital; aged 72; died, April 8, of angina pectoris.

Joseph Francis Doran, Wilkinsburg, Pa.; University of Pittsburgh School of Medicine, 1910; served during World War I; aged 59; died, April 12, of heart disease.

Thomas Francis Dwyer, Buffalo; University of Buffalo School of Medicine, 1885; aged 80; died, April 11, in the Buffalo General Hospital of adenoma of the prostate, chronic uremia from bilateral pyonephrosis and hemorrhagic cystitis.

Charles Thomas Ehrnsberger, Lima, Ohio; Miami Medical College, Cincinnati, 1900; aged 76; died, April 12, of coronary occlusion.

David Paul Fry, Hedgesville, W. Va.; College of Physicians and Surgeons, Baltimore, 1889; served on the staff of the City Hospital, Martinsburg; aged 75; died, April 14, of pneumonia.

Willoughby Lyman Godfrey ✠ Battle Creek, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1876; an Affiliate Fellow of the American Medical Association; past president and vice president of the Calhoun County Medical Society; in 1928 the society presented him with a cup marked "Fifty Years in Medicine"; aged 90; died, April 7, of arteriosclerotic heart disease.

Raymond Weist Graham, Syracuse, N. Y.; New York Homeopathic Medical College and Flower Hospital, New York, 1915; member of the Medical Society of the State of New York; aged 52; attending anesthetist and president of the staff of the Syracuse General Hospital, where he died, April 4, of heart disease.

Harold Louis Hall, Brooklyn; Cornell University Medical College, New York, 1910; member of the Medical Society of the State of New York; aged 55; died, April 6, in Tucson, Ariz., of coronary thrombosis.

Charles C. Hammond, Erie, Pa.; Medico-Chirurgical College of Philadelphia, 1903; member of the Medical Society of the State of Pennsylvania; served on the staff of the Adrian Hospital, Punxsutawney; aged 64; died in April, of coronary sclerosis.

Don Stuart Harvey ✠ Chicago; Rush Medical College, Chicago, 1891; aged 75; served on the staff of the South Chicago Community Hospital, where he died, May 2, of lobar pneumonia and acute coronary insufficiency.

Robert Hatfield Harvey, Chicago; Northwestern University Medical School, Chicago, 1894; aged 74; died, April 29, of bronchopneumonia.

Elnathan Pierce Hatheway, Ottawa, Ill.; Rush Medical College, Chicago, 1895; health officer of Ottawa; on the staff of the Ryburn Memorial Hospital; aged 84; died, April 4, of cerebral hemorrhage.

Edwin Clyde Henry ✠ Omaha; John A. Creighton Medical College, Omaha, 1895; Medico-Chirurgical College of Philadelphia, 1896; past president of the Omaha-Douglas County Medical Society; served in France during World War I; formerly chief surgeon and owner of the Lord Lister Hospital; on the staffs of the Lutheran, Doctors' and St. Joseph's hospitals; past president of the Rotary Club; aged 73; died, April 2, of cerebral thrombosis.

Howard M. Humphrey, Indianola, Iowa; State University of Iowa College of Homeopathic Medicine, Iowa City, 1895; aged 74; died, April 2, in Des Moines of cerebral hemorrhage.

Carl Ireneus, Chicago; National Medical University; Chicago, 1905; member of the Illinois State Medical Society; at one time on the staff of the Washington Park Community Hospital; aged 70; died, April 16, of acute coronary thrombosis.

James Raymond Johnson, Philadelphia; Howard University College of Medicine, Washington, D. C., 1919; served on the staff of the Mercy Hospital; examining physician for draft board number 9; aged 56; died, April 6, of hypertensive cardiovascular renal disease.

Francis Drake Kendall Sr., Columbia, S. C.; Medical College of the State of South Carolina, Charleston, 1883; served on the staff of the Roper Hospital, Charleston; for many years surgeon for the Southern Railroad; aged 86; died, April 4, of cardiovalvular disease and asthma.

George Lawrence Kessler ✠ Brooklyn; New York University Medical College, New York, 1897; consultant to the Brooklyn Eye and Ear Hospital; aged 74; died, April 3, of coronary thrombosis.

William Benjamin Kunze, Belleville, Ill.; St. Louis University School of Medicine, 1906; aged 61; died, April 1, in the Pleasant View Sanatorium, East St. Louis, of tuberculosis.

Isaac Herman Leion, Detroit; University of St. Vladimira Faculty of Medicine, Kiev, Russia, 1896; formerly a member of the Michigan State Tuberculosis Sanitarium Commission; served on the staffs of the Lincoln and Marr General hospitals; at one time medical examiner for the probate court of Wayne County; aged 77; died, April 8, of cerebral hemorrhage.

William Vardeman Lindsay, Winona, Minn.; Missouri Medical College, St. Louis, 1898; member of the Minnesota State Medical Association; past president of the Winona County Medical Society and the Winona County Public Health Association; served as a major with the American Expeditionary Forces in Siberia during World War I; for many years health officer of Winona; in 1920 county physician; aged 69; died, April 24, of coronary thrombosis.

Francis W. Mann, Wellington, Mo.; Missouri Medical College, St. Louis, 1889; member of the Missouri State Medical Association; aged 79; died, March 11, of coronary occlusion.

Robert Batten Mervine ✠ Lock Haven, Pa.; Jefferson Medical College of Philadelphia, 1903; served on the staff of the Warren (Pa.) General Hospital; aged 62; died, April 3, of cerebral hemorrhage.

Robert J. Montfort, Elizabeth, N. J.; University of the City of New York Medical Department, 1890; member of the Medical Society of New Jersey; served on the staff of the Elizabeth General Hospital; aged 78; died, April 4, of arteriosclerosis.

Sampson James Morris, Chicago; Chicago College of Medicine and Surgery, 1910; on the staffs of St. Mary's, Columbus and St. Elizabeth's hospitals; a field health officer for the city health department; aged 58; died, April 10, in Van Nuys, Calif., of cerebral hemorrhage.

Wallace Brown Perry ✠ Lincoln, Ill.; St. Louis University School of Medicine, 1918; past president of the Logan County Medical Society; on the staffs of the Evangelical Deaconess and St. Clara's hospitals; aged 52; died, April 9, of coronary thrombosis.

Francis Herbert Poole ✠ Major, U. S. Army, retired, Boulder Creek, Calif.; Columbian University Medical Department, Washington, D. C., 1902; served during World War I; became a major in the medical corps of the U. S. Army in 1920 and retired in 1933 for disability in line of duty; formerly an agency physician in the U. S. Indian Service; at one time medical superintendent of the Idaho Insane Asylum, Blackfoot; fellow of the American College of Surgeons; aged 70; died recently of carbon monoxide poisoning.

George Anthony Robertson Jr., Battle Creek, Mich.; University of Michigan Homeopathic Medical School, Ann Arbor, 1901; formerly on the staff of the Nichols Memorial Hospital; aged 64; died, April 6, of acute uremia and carcinoma of the bladder.

John Donald Target, Atlantic City, N. J.; University of Pennsylvania Department of Medicine, Philadelphia, 1898; member of the Medical Society of the State of Pennsylvania; served in the U. S. Navy during World War I; major in the medical reserve corps of the U. S. Army not on active duty; aged 74; died, April 13, of heart disease.

DIED WHILE IN MILITARY SERVICE

Richard Davison Bullard ✠ Saratoga Springs, N. Y.; Cornell University Medical College, New York, 1930; diplomate of the National Board of Medical Examiners; fellow of the American College of Surgeons; an organizer and executive officer of the tumor clinic and member of the staff of the Saratoga Hospital; at one time ship's surgeon for the Grace Line, the Panama Export Company and the American Export Company; began active duty as a lieutenant commander in the U. S. Naval Reserve in July 1942; served on the U. S. S. *Tasker H. Bliss,* which was lost off the coast of Morocco early in November 1942; aged 39; died, April 22, in the Saratoga Hospital of carcinoma of the brain and pulmonary edema, while on sick leave from the National Naval Medical Center, Bethesda, Md.

Frederick Paul Sedgwick, San Francisco; University of Minnesota College of Medicine and Surgery, Minneapolis, 1941; began active duty as a first lieutenant in the medical reserve corps of the U. S. Army on Aug. 6, 1941 and later became a captain; assigned to the 771st Military Police Battalion at Monterey, Calif.; aged 29; died, April 5, of a self-inflicted bullet wound.

Correspondence

ORANGE JUICE SENSITIVITY IN BREAST FED INFANTS

To the Editor:—This is a protest against the administration of orange juice to infants naturally fed. Scurvy is practically unknown in infants receiving human milk exclusively. The earlier researches indicated that breast milk was generally low in its ascorbic acid content; consequently the dictum that all infants should receive orange juice daily became incorporated in the dietary directions. Nearly every mother on leaving the hospital is directed to give her baby orange juice. The result is that an allergy to orange juice has become widely disseminated among infants. The fact that orange juice contains a soluble protein (about 1 per cent) is generally overlooked. This protein substance may readily be absorbed unchanged by the breast fed infant and, I believe, is the cause of this sensitization.

Moreover, human milk is approximately isotonic with the blood of the infant. The daily administration of orange juice supplies an excess of alkaline ions to be disposed of by metabolic and excretory processes and may lead to a hypertonicity and hyperexcitability.

Although I base my conclusion entirely on clinical experience, I am impelled to lay down this nutritional rule: The feeding of orange juice to breast fed infants under 4 mounths of age is contraindicated.

JOHN ZAHORSKY, M.D., St. Louis.

NOTE.—From the point of view of the allergist the high permeability of the gastrointestinal tract of the infant in its first weeks of life must be emphasized (Lippard, V. W.; Schloss, O. M., and Johnson, Priscilla A.: Immune Reactions Induced in Infants by Intestinal Absorption of Incompletely Digested Cow's Milk Protein, *Am. J. Dis. Child.* **51**:562 [March] 1936). Because of this it seems to be advisable that the diet of the infant with an allergic disposition should be as simple as possible. If human milk is available in adequate amounts for good nutrition, it would be advisable to delay adding any other food for several months. However, this need not apply to all infants. Only about 10 per cent of the population develops any allergy. It is also generally accepted that allergy developing in infants is usually associated with a family history of allergy. It would therefore appear to be more reasonable that any limitation in diet should be directed only to those children who give a family history of allergy. Even here, allergists are inclined to avoid any special precaution as far as diet is concerned except the advice to add only one food at a time during the first year of life, to avoid food mixtures and to look for the causes of skin rashes or gastrointestinal disturbances with the possibility of allergy in mind. The pediatrician or the intelligent mother who is watchful for symptoms suggestive of allergy will recognize the first signs of it, and serious trouble may almost invariably be avoided by rapid recognition of the offending agent and the elimination of the cause.

In other words, there is too great a tendency "to be allergy conscious" and to lay down special rules other than those of careful observation.

Accompanying is a list of articles regarding the frequency of orange juice as a cause of symptoms of allergy, and of the frequency of allergy in breast fed infants.

BEN Z. RAPPAPORT, M.D., Chicago.

Articles on Allergy in Breast Fed Infants

Hill, L. W.: Eczema in Infants and Young Children, *New England M. J.* **223**: 624 (Oct. 17) 1940.

Orange juice is likely to cause trouble in infants. Even if skin reactions are negative it is not uncommon for itching to be severe after ingestion of orange juice.

Rowe, A. D.: Elimination Diets and Patient's Allergies.

Exclude all foods which commonly produce eczema or allergy, such as milk, egg, wheat or orange.

Robinson, Edith C.: Study of 240 Infants, *Am. J. Dis. Child.* **59**: 1002 (May) 1940.

Fewer rashes in breast fed babies than in any other group.

Goodman, Herman, and Burr, M. E.: Elimination Test Diets, *Arch. Pediat.* **54**: 88 (Feb.) 1937.

Some cases of eczema develop on breast feeding only. Usually the eruption occurs after complementary or supplementary feedings, such as milk, orange juice and vegetables.

Hopkins, J. G.: Allergic Eczema, *Am. J. Dis. Child.* **49**: 1511 (June) 1935.

Of various foods found to be the sole cause of eczema in infants as proved by the elimination of such foods, eggs were found to cause trouble in one half of the cases, wheat and milk in about one fourth of the cases, oranges next, then spinach, potatoes and so on. For example:

	No. of Cases	Positive Skin Reactions	Allergic Reaction After Eating Food
Egg	43	32	35
Wheat	26	12	21
Milk (cow)	19	12	18
Orange	6	4	6

RING TEST IN VAN DEN BERGH REACTION

To the Editor:—Referring to the use of the term "the ring test of Lepehne" in the paper "The Functional Value of the Liver in Heart Disease" by Chávez, Sepúlveda and Ortega I. (THE JOURNAL, April 17), Lepehne, now working at Boston University School of Medicine, is not responsible for the application of the ring technic now used so extensively in the performance of the van den Bergh reaction ("direct" reaction). In an editorial in the *Journal of Laboratory and Clinical Medicine* a decade ago Magath did give Lepehne credit for the test, remarking that it was "rediscovered by Elton ten years later," but examination of Lepehne's report showed that while he tried overlaying the diazo reagent on serum rather than mixing it before I did, he did not appreciate its clinical value and stated that it afforded no advantage over the original technic. I believe I was the first (quite accidentally) to find that this method sensitized the van den Bergh reaction tremendously in detecting the presence of bilirubinate ("direct" reacting form) in blood serum, and I have made a number of studies based on that observation, leading to my own conceptions of the mechanism of jaundice in general, which seem to have been acceptable to the authors of a number of textbooks on clinical pathology.

Some time ago, with the help of Mr. Kalmar, I translated van den Bergh's monograph "Der Gallenfarbstoff im Blute," ed. 2 (1928), "nahezu unveränderte," and noted that he was well aware of the positivity of the (direct) reaction (even without the ring technic) in congestive heart failure. His first edition, containing this and many other significant observations for which he has not been accorded full credit, was published in 1918. The publication of his monograph in English would be a contribution to the classics of scientific literature, but one's blood pressure has to be taken into consideration in such effort, and thus far I have been quite successful in keeping mine down where it should be.

It is my earnest hope that Hijmans van den Bergh will survive the Nazi occupation of the Netherlands and reassume his position of leadership in medical science.

NORMAN W. ELTON, Lieutenant Colonel, M. C.,
APO 827, % Postmaster,
New Orleans.

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

NATIONAL BOARD OF MEDICAL EXAMINERS EXAMINING BOARDS IN SPECIALTIES

Examinations of the National Board of Medical Examiners and Examining Boards in Specialties were published in THE JOURNAL, June 19, page 560.

BOARDS OF MEDICAL EXAMINERS

ARIZONA: * Phoenix, July 6-7. Sec., Dr. J. H. Patterson, 826 Security Bldg., Phoenix.

CALIFORNIA: *Written.* San Francisco, June 28-July 1. *Oral.* Los Angeles, August 9. Sec., Dr. Frederick N. Scatena, 1020 N Street, Sacramento.

CONNECTICUT: * *Written.* Hartford, July 13-14. *Reciprocity.* Hartford, July 27. Sec. to the Board, Dr. Creighton Barker, 258 Church St., New Haven.

DELAWARE: Dover, July 13-15. *Reciprocity.* Dover, July 20. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, 229 S. State St., Dover.

DISTRICT OF COLUMBIA: * Washington, Nov. 8-9. Sec., Commission on Licensure, Dr. G. C. Ruhland, 6150 E. Municipal Bldg., Washington.

HAWAII: Honolulu, July 12-15. Sec., Dr. J. A. Morgan, 55 Young Building, Honolulu.

IDAHO: Boise, July 13. Dir., Bureau of Occupational Licenses, Mrs. Lela D. Painter, 355 State Capitol Bldg., Boise

ILLINOIS: Chicago, Oct. 12-14. Superintendent of Registration, Department of Registration and Education, Mr. Philip M. Harman, Springfield.

INDIANA, Indianapolis, Sept. 14-16. Sec., Board of Medical Registration & Examination, Dr. W. C. Moore, 301 State House, Indianapolis.

IOWA: * Iowa City, Dec. 27-29. Dir., Division of Licensure and Registration, Mr. H. W. Grefe, Capitol Bldg., Des Moines.

KENTUCKY: Louisville, Nov. 15-17. Sec., Dr. A. T. McCormack, 620 S. Third St. Louisville.

MAINE: Augusta, July 6-7. Sec., Dr. Adam P. Leighton, 192 State St., Portland.

MARYLAND: Baltimore, Dec. 14-17. Sec., Dr. J. T. O'Mara, 1215 Cathedral St., Baltimore.

MASSACHUSETTS: Boston, July 13-16. Sec., Board of Registration in Medicine, Dr. H. Q. Gallupe, 413-F State House, Boston.

MISSISSIPPI: Jackson, Sept. Asst. Sec., State Board of Health, Dr. R. N. Whitfield, Jackson.

MISSOURI: *Endorsement.* Jefferson City, July 12. Sec., State Board of Health, Dr. James Stewart, State Capitol Bldg., Jefferson City.

MONTANA. Helena, Oct. 5-6. Sec., Dr. O. G. Klein, First Nat'l Bank Bldg., Helena.

NEVADA: *Reciprocity.* Carson City, Aug. 2. Sec., Dr. G. H. Ross, 215 North Carson St., Carson City.

NEW HAMPSHIRE: Concord, Sept. 9-10. Sec., Board of Registration in Medicine, Dr. D. G Smith, State House, Concord.

NEW MEXICO: * *Endorsement.* Santa Fe, Oct. 11-12. Sec., Dr. LeGrand Ward, 141 Palace Ave., Santa Fe.

NORTH DAKOTA: Grand Forks, July 6-9. Sec., Dr. G. M. Williamson, 4½ S. Third St., Grand Forks.

OHIO: *Endorsement.* Columbus, July 7. *Written.* Columbus, Dec. 4. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

OREGON: * Portland, July 21-24. Sec., Dr. L. S. Besson, 608 Failing Bldg., Portland.

PENNSYLVANIA: Philadelphia, July 6-10. Act. Sec., Bureau of Professional Licensing, Department of Public Instruction, Mrs. Marguerite G. Steiner, 358 Education Bldg., Harrisburg.

RHODE ISLAND: * Providence, July 1-2. Chief, Division of Examiners, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

SOUTH CAROLINA: Columbia, June 28-30. Sec., Dr. N. B. Heyward, 1329 Blandena St., Columbia.

SOUTH DAKOTA: * Pierre, July 20. Dir., Medical Licensure, State Board of Health, Dr. Gilbert Cottam, Pierre.

TEXAS: Galveston, Aug. 2-4. Sec., Dr. T. J. Crowe, 918-20 Texas Bank Bldg., Dallas.

VERMONT: Burlington, Dec. 15-17. Sec., Dr. F. J. Lawliss, Richford.

WASHINGTON: * Seattle, July 12-14. Dir., Department of Licenses, Mr. Thomas A. Swayze, Olympia.

WEST VIRGINIA: Charleston, July 6-8. Commissioner, Public Health Council, Dr. C. F. McClintic, State Capitol, Charleston.

WISCONSIN: * Milwaukee, June 29-July 1. Sec., Dr. C. A. Dawson, Tremont Bldg., River Falls.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

DISTRICT OF COLUMBIA: Washington, Oct. 18-19. Sec., Dr. G. C. Ruhland, 6150 E. Municipal Bldg., Washington.

IOWA: Des Moines, July 13. Dir., Division of Licensure & Registration, Mr. H. W. Grefe, Capitol Bldg., Des Moines.

MINNESOTA: Minneapolis, Oct. 5-6. Sec., Dr. J. C. McKinley, 126 Millard Hall, Univ. of Minnesota, Minneapolis.

OREGON: Corvallis, July 10. Sec., State Board of Higher Education, Mr. C. D. Byrne, University of Oregon, Eugene.

RHODE ISLAND: Providence, Aug. 18. Chief, Division of Examiners, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

TENNESSEE: Nashville and Memphis, July 2-3. Sec., Dr. O. W. Hyman, 874 Union Ave., Memphis.

WASHINGTON: Seattle, July 8-9. Dir., Department of Licenses, Mr. Thomas A. Swayze, Olympia.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Malpractice: Pregnancy Mistaken for Fibroid Tumor.—The plaintiff, a woman aged 37 who had borne five children, consulted the physician defendant on June 25, 1938. According to the patient and her husband, who accompanied her, she told the physician that she was pregnant and that she had not menstruated since the preceding October. The physician and his office nurse, however, testified that he interrogated the patient concerning menstruating and both she and her husband said "That is just the point. She has gotten to the point where she is unable to do her work," from which the physician inferred that "she had been bleeding too much." Also according to the physician and the nurse, when the possibility of pregnancy was broached to her she replied: "Doctor, that is impossible. I am the mother of five children, and if I was in the family way I would certainly know it." The physician then made a "bimanual" or "vaginal" examination of the patient and concluded that she had a fibroid tumor. Accordingly on July 6 he performed an operation to remove the supposed tumor and discovered that the plaintiff was pregnant. Nine days later the patient was delivered of a dead fetus fully developed. Subsequently she sued the physician and the hospital in which the operation had been performed for malpractice. At the conclusion of the plaintiff's evidence the hospital was dismissed, and at the close of the case the jury returned a verdict in favor of the physician, and judgment was entered thereon. The circuit court of Kanawha County, West Virginia, on appeal, reversed the judgment in favor of the physician and ordered a new trial, and the physician appealed to the Supreme Court of Appeals of West Virginia.

The trial court admitted testimony concerning the physician's reputation for skill and care. This the patient contended, with which contention the circuit court agreed, was erroneous because of the general rule in cases of malpractice that evidence of the defendant physician's reputation in the community and among his profession as to skill and care is inadmissible unless questioned by the plaintiff. The physician, however, cited *Dudley* v. *Grace Hospital*, 112 W. Va. 461, 164 S. E. 670, as decisive of the admissibility of such evidence. In that case it was held that "in an action for malpractice, where the declaration charges 'want of skill and care' generally and does not limit the charge to a specific act, evidence of the physician's reputation for skill and care is admissible." In that case the defendant had undertaken to perform a tonsillectomy on the patient, and the declaration charged that "by and through their want of skill and care, in some way, or by some means without the knowledge of plaintiff, and beyond her power to explain, caused an injury to plaintiff's left eye." The court there expressed the opinion that the language used in the declaration did not limit the want of "skill and care" to any particular act and held that it was a direct charge on the defendant's proficiency generally, and therefore the physician's reputation for skilfulness and care became a proper inquiry "for such consideration as the jury deems requisite." In this case, however, said the Supreme Court of Appeals, the sole reference in the declaration filed by the plaintiff relating to the skill of the physician defendant was a charge that the physician "unskilfully attempted to stitch the wound." In the first place, such an allegation relates to a specific act and therefore does not fall within the rule propounded in the *Dudley* case. Moreover, we do not believe that such an allegation is one which charges a lack of skill or ability on the part of the operating physician to stitch the wound but rather a careless performance. Exclusive of such allegation, the gravamen of the declaration is definitely one of negligence, and therefore

the general rule as relied on by the patient is applicable and the admission of evidence relating to the physician's reputation for skill and care in the community and among his profession was erroneous.

The Supreme Court of Appeals accordingly remanded the case to the trial court for a new trial.—*Robinson v. Amick, 24 S. E. (2d) 461 (W. Va., 1943).*

Workmen's Compensation Acts: Cerebral Hemorrhage Precipitated by Strain of Employment.—The claimant at the time of the alleged industrial accident was a man of about 75 years of age and had arteriosclerosis and hypertension. He had worked for a number of years as a glue cooker for the defendant employer. The "glue room" in which he worked was reached by ascending two perpendicular ladders of about 12 feet and 8 feet, respectively. It was his duty to pull sacks of glue weighing from 100 to 200 pounds by rope and pulley to the "glue room," to stack these sacks and as needed to weigh them and dump the contents into "cooking" kettles. On the day of the alleged industrial accident, the "glue room" was unusually hot and the claimant had "all he could do." After working for about three and a half hours he descended the ladders for a drink of water. Just as he reached the main floor he felt a roaring sound in his left ear and had a dead or numb feeling in his right arm and leg. He was able to return to the "glue room" with difficulty but continued on the job, doing light work. About four and a half hours later he began to feel worse and could not hold a pencil in his hand to execute a daily report. He quit work, and just as he reached the main floor his right side "gave way" and he was taken home in a semiconscious condition. Subsequently a diagnosis of cerebral hemorrhage was made and the workman became partially paralyzed on his right side. He brought proceedings under the workmen's compensation act of Louisiana. From a judgment in his favor the employer appealed to the Court of Appeals of Louisiana, first circuit.

The principal question in this case, said the court, involves both one of fact and one of law—of fact, as to whether or not the claimant suffered an accident which was a contributing cause of the rupture of a cerebral artery, and of law, "as to whether or not there was any accident and causal connection between the alleged injury and the present disability," within the meaning of the workmen's compensation act. The claimant's attending physician testified that the claimant had hardening of the arteries and that this condition, coupled with the physical exertion and overheating in connection with his work, caused his blood pressure to rise, producing a rupture of the cerebral artery. Another physician, who was called in consultation in the treatment of the claimant, testified that the hardening of the arteries present in the claimant was not caused by any overexertion or overheating but that a person with hardening of the arteries and high blood pressure could by undue physical and mental exertion cause the blood pressure to rise temporarily, putting a greater strain on the brittle or weakened arteries and thus produce a rupture and resulting hemorrhage. In this physician's opinion the exertion and overheating of the claimant while working combined with his condition to cause the cerebral hemorrhage, which was the cause of his present disability. Two physicians called by the employer stated that the strain and exertion put forth by the plaintiff while at work had no causal connection with the cerebral hemorrhage but that it was a mere coincidence that the hemorrhage occurred while the claimant was on the job and that it might just as likely have occurred while he was straining at stool or doing almost anything else off the job. The trial court called three physicians as court witnesses. Two of these physicians testified that the exertion and overheating had no causal connection with the hemorrhage because the hemorrhage did not occur at the height of the exertion. The other physician, however, believed that the exertion and overheating did precipitate the hemorrhage; that the elevation of blood pressure caused from lifting and handling the sacks continued and persisted while the claimant was descending the ladders.

The medical evidence, continued the court, indicates that a warm temperature does not tend to increase the blood pressure but rather has the opposite effect. However, the sudden lowering of the temperature does have the effect of raising the blood pressure. According to the evidence, blood pressure will subside in a very few minutes after the exertion ceases. Because of this, the employer contended that any elevation in the claimant's blood pressure caused from his overexertion in the "glue room" would have subsided before he reached the bottom of the ladders. However, said the court, as one of the physician-witnesses called by the court testified and as the other physicians in the case admitted, climbing down these two steep ladders a distance of 20 feet is considerable exercise in itself. In fact, it would seem that for a man of the claimant's age climbing down these ladders required about as much physical exertion as did the performance of his duties in the "glue room." We conclude that the strain and exertion put forth by the claimant for several hours in handling the heavy sacks in the hot "glue room" caused his blood pressure to rise; that the continued exercise in descending the ladders and becoming exposed to the cooler air kept the blood pressure elevated and that when the claimant reached the floor this continued, and persistent pressure on the brittle and weakened cerebral artery caused it to rupture. The situation is similar to an automobile tire with worn fibers and blisters in the rubber when the air pressure is such as to bring the walls of the tire to the breaking point. The tire might hold up with this pressure for a while, but the continued strain will finally cause it to blow out.

During each systole, continued the court, the ventricles of the heart force blood into the arteries that are already full. The extensibility of the arteries enables them to distend and receive the extra supply of blood. When the systole is over and the force is relaxed, the elasticity of the arteries causes them to recoil to their former diameter in a normally healthy person, but as the result of age, or other cause, the walls of the arteries may become less elastic and then do not properly perform their function. This condition is called arteriosclerosis, and any increase of the blood pressure against the worn out arteries is likely to cause a rupture. If the exertion and straining in working cause such an elevation in the blood pressure of a person with hardened arteries as to cause the artery to rupture and result in a hemorrhage, this is an injury to the physical structure of the body and is such an unexpected and unforeseen occurrence as to constitute an accident within the meaning of the workmen's compensation law.

While the claimant was performing his work in the usual and customary way, it was apparent that this work on the day of the industrial accident was unusually heavy and that the "glue room" was unusually warm. To a person with hardening of the arteries and high blood pressure, hard work is more or less pulling the trigger on a cerebral hemorrhage. To argue that the claimant might have had the stroke while off duty is merely to indulge in speculation. The fact is that the claimant did not have the hemorrhage while off duty, but the hemorrhage occurred in the course of his employment and was precipitated by the elevation of the blood pressure produced by the lifting, exertion and straining incurred in connection with his work.

The court accordingly concluded that the claimant had suffered an accident, within the meaning of the compensation act, which was a contributing cause to the rupture of his cerebral artery and that there was a causal connection between the industrial injury and the present disability. Accordingly the award of compensation in favor of the workman was affirmed. —*Murray v. Mengel Co., 9 So. (2d) 818 (La., 1942).*

Society Proceedings

COMING MEETINGS

Montana, Medical Association of, Billings, July 7-8. Dr. Thomas F. Walker, 206 Medical Arts Building, Great Falls, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1932 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Obstetrics and Gynecology, St. Louis

45:183-364 (Feb.) 1943. **Partial Index**

Asphyxia Neonatorum: Experimental Study in Guinea Pig. W. F. Windle and R. F. Becker, Chicago.—p. 183.
*Placental Transmission of Sulfathiazole and Sulfadiazine and Its Significance for Fetal Chemotherapy. H. Speert, Baltimore.—p. 200.
*Colostrum Intradermal Test for Diagnosis of Pregnancy. E. Allen and L. B. Donaldson, Chicago.—p. 208.
Clinical Pelvimetry and Pelvic Palpation as Basis for Morphologic Classification of Obstetric Pelvis: Preliminary Report. C. T. Javert, K. B. Steele and Mildred E. Powlitis, New York.—p. 216.
Hypertension and Pregnancy. R. D. Mussey, A. B. Hunt and F. S. Sluder, Rochester, Minn.—p. 224.
*Importance of Rh Blood Factor in Erythroblastosis. Edith L. Potter, I. Davidsohn and A. B. Crunden, Chicago.—p. 254.
Sarcoma of Uterus: Clinicopathologic Study of 27 Cases. M. D. Bosse and J. N. Stanton Jr., Pittsburgh.—p. 262.
Effects of Estrogenic Therapy on Ovarian Function: I. When Employed During Normal Menstrual Cycles. E. C. Hamblen, D. V. Hirst and W. K. Cuyler, Durham, N. C.—p. 268.
Evaluation of Pregnandiol Complex as Index of Ovarian and Uterine Function. S. L. Siegler and D. Bauer, Brooklyn.—p. 277.
Relationship of Erythroblastosis Fetalis to Intrauterine Asphyxia. P. E. Rothman and Helen Hopkins, Los Angeles.—p. 291.
Vaginal Delivery of a Six Months Living Child Four Years After Supravaginal Hysterectomy. D. A. Connors, J. V. Cresci and M. Glass, Brooklyn.—p. 309.
Complete Heart Block Complicating Pregnancy. F. V. Mitchell, D. S. Fettes Jr. and A. G. Hollander, Brooklyn.—p. 340.
Primary Ovarian Pregnancy with Living Mother and Child. I. J. Strumpf, Jacksonville, Fla.—p. 350.

Placental Transmission of Sulfathiazole and Sulfadiazine.—Organisms most frequently encountered in severe neonatal infections are among the most responsive to sulfonamides. Speert investigated placental transmission of the sulfonamide compounds with the view of extending their scope in fetal prophylaxis and intrauterine therapy. He observed that sulfathiazole and sulfadiazine, like sulfanilamide, diffuse readily across the placenta. A single intravenous dose of 5 Gm. of sodium sulfathiazole or sodium sulfadiazine to the mother during labor causes the drug to appear in the fetal blood almost immediately. They are retained there in therapeutically effective concentrations for at least six hours in the case of sulfathiazole and considerably longer in the case of sulfadiazine. Equilibrium between maternal and fetal blood is established within three hours. A higher concentration of sodium sulfadiazine is obtainable in the fetal blood than is possible with an equal dose of sulfathiazole. These drugs also appear in the amniotic fluid, but later than in the fetal blood. The intravenous injection of sodium sulfathiazole or sulfadiazine into the mother is suggested as a method of treating the fetus in utero in cases of intercurrent or intrapartum infection caused by susceptible organisms. When the lower part of the mother's genital tract harbors the gonococcus, the establishment of an adequate sulfathiazole or sulfadiazine concentration in the fetus prior to delivery would appear indicated as a prophylactic measure.

Colostrum Intradermal Test for Diagnosis of Pregnancy.—The colostrum intradermal test of Falls, Freda and Cohen for the diagnosis of pregnancy was used by Allen and Donaldson in 151 known pregnant and 81 known nonpregnant women. The reaction of the test was correct in 82 of the first group and in 28 of 38 of the group in the first trimester. The percentage of accuracy for the second group is 87.65 or in 71 of the 81 women known not to be pregnant. Allen and Donaldson point out that the percentage of accuracy in their series of pregnant and nonpregnant women is much lower than that obtained by the original investigators. There seems to be either a difference in potency in individual colostrum samples or a periodic change in individual sensitivity. Cutaneous sensitivity appears to play a part in false or incorrect reactions. More work should be done on the hormone content of colostrum.

Importance of Rh Blood Factor in Erythroblastosis.—During the last several years Potter, Davidsohn and Crunden examined many fetuses and infants at necropsy. Following the discovery of the Rh blood factor they attempted to obtain blood from the women who had given birth to the infants and fetuses presenting any suggestion of erythroblastosis as the cause of death. The blood of 60 mothers giving birth to babies with erythroblastosis and of 59 infants and fetuses has been tested. Only 6 of the infants were Rh—. When the mother is Rh— and the father is Rh +, either 50 or 100 per cent of the offspring will be Rh positive, the difference in percentage depending on whether the Rh factor in the father is homozygous or heterozygous. If fetal blood containing the Rh factor gains access to the maternal circulation, agglutinins may be produced in the mother's blood. When it is necessary to transfuse an infant with erythroblastosis, the mother's blood should never be used. The authors have not observed free anti Rh agglutinins in the blood stream of such infants nor have they found such a record. Therefore they question whether it is necessary to transfuse with Rh negative blood on this basis. If the cells and the serum of a patient and a potential donor do not agglutinate after incubation at 37 C. for one hour and centrifugation at 600 revolutions for one minute, the blood of this donor can be used with safety, regardless of whether it is Rh positive or negative. As the majority of women who bear babies with erythroblastosis are known to be Rh negative and may show anti Rh agglutinins, it is essential to use blood from a known Rh negative donor if transfusion becomes necessary in such a woman. Since the Rh factor is present in approximately 86 per cent of the population, about 12 per cent of marriages will be between an Rh negative wife and an Rh positive husband. Such a wife is capable of becoming sensitized to the Rh factor and of subsequently reacting on the fetus to produce erythroblastosis. However, erythroblastosis in the authors' experience has been found in only about 0.1 per cent of all pregnancies. The several conditions which may account for the difference between the potential and the actual incidence are childless or one child marriages, the ability of the Rh antigen in the infant to stimulate the production of agglutinins in the maternal blood, the probable variable ability of the placenta to prevent the passage of the Rh antigen, the probable variance of the maternal response to the Rh antigen into the blood stream and the probable variable ability of the placenta to permit passage of agglutinins. Apparently other superimposed factors are operative in the determination of whether or not erythroblastosis will be realized. A few women giving birth to babies who appear to have erythroblastosis are Rh positive and a few such infants are Rh negative. Therefore it may be possible that these infants are actually suffering from a different disease entity. However, a doubtful diagnosis of erythroblastosis can be confirmed by finding the maternal blood Rh negative and the paternal and infant blood Rh positive. If the mother is Rh positive, the diagnosis of erythroblastosis is less probable.

Medical Annals of District of Columbia, Washington

12:43-86 (Feb.) 1943

Casualties and Medical Problems of Tank Warfare. D. L. Borden, Fort Eustis, Va.—p. 43.
Medical Aspects of Chemical Warfare: I. Decontamination. R. H. Meredith, Washington.—p. 51.
History of Brucellosis. A. P. Hitchens, Philadelphia.—p. 55.
Cholecystitis as Complication of Brucellosis: Report of Case. C. S. White, Washington.—p. 60.
Twelfth Revision of U. S. Pharmacopeia and Its Importance to the Physician. G. B. Roth, Washington.—p. 63.

Northwest Medicine, Seattle

42:63-94 (March) 1943

Surgical Considerations of War Casualties. W. H. Bueermann.—p. 67.
Treatment of War Wounds and Fractures Based on Spanish War Experience. I. Ponseti and J. P. Guri.—p. 73.
Progress from War Surgery. C. R. McCreery.—p. 78.
Diuretic and Other Effects of Intravenous Sorbitol and Sucrose: Removal of Edema Fluid by Combined Action of These Substances and Salyrgan. H. L. Richardson, J. C. Kennedy and E. S. West.—p. 80.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

27:97-144 (March) 1943

Some Symptoms Associated with Retinal Lesion. E. G. Hill.—p. 97.
Case of Bilateral Interstitial Keratitis Leading to Blindness. J. D. J. Freeman.—p. 104.
Acne Rosacea Keratitis and Riboflavin (Vitamin B_2). Winifrede M. Fish.—p. 107.
Problem of Hypermetropic Miner. A. C. Reid.—p. 110.
Glaucoma. T. H. Butler.—p. 116.
Remarks on Fincham's Capsular Theory of Accommodation. J. W. Nordenson.—p. 127.

British Journal of Tuberculosis, London

37:1-52 (Jan.) 1943. **Partial Index**

Results of Thoracoplasty. C. P. Thomas and W. P. Cleland.—p. 2.
Treatment of Tuberculous Empyema. C. Hoyle.—p. 10.
Transpleural Drainage of Tuberculous Cavities. R. J. C. Maxwell and M. L. Kohnstamm.—p. 24.
Artificial Bronchial Occlusion by Plasma Clot in Treatment of Chronic Tuberculous Cavitation: Preliminary Report. D. Thomas, J. Gough and Bess M. Still.—p. 44.

Journal of Physiology, Cambridge

101:379-518 (March 25) 1943. **Partial Index**

Circulatory Effects of Some Isothiourea Derivatives with Special Reference to Sensitization of Animals to Pressor Action of Adrenalin. F. N. Fastier and F. H. Smirk.—p. 379.
Effect of Bone Dysplasia (Overgrowth) on Cranial Nerves in Vitamin A Deficient Animals. E. Mellanby.—p. 408.
Synthesis of Acetylcholine in Sympathetic Ganglions and Cholinergic Nerves. W. Feldberg.—p. 432.
Origin of Inflation and Deflation Pulmonary Reflexes. M. Hammouda, A. Samaan and W. H. Wilson.—p. 446.
Estrogens and Acetylcholine. C. W. Emmens, F. C. Macintosh and D. Richter.—p. 460.
Synaptic Potentials and Transmission in Sympathetic Ganglion. J. C. Eccles.—p. 465.
Recovery of Fiber Numbers and Diameters in Regeneration of Peripheral Nerves. E. Gutmann and F. K. Sanders.—p. 489.

Lancet, London

1:325-354 (March 13) 1943

Social and Industrial Environment and Disease. M. Greenwood.—p. 325.
*Laboratory Infection with Murine Typhus. M. van den Ende, E. H. R. Harries, C. H. Stuart-Harris, A. J. Steigman and R. Cruickshank.—p. 328.
Tropical Neurasthenia. T. R. Hill.—p. 332.
Evaluation of Gastroscopy: Analysis of 1,000 Examinations. A. M. Gill.—p. 333.
*Immediate Skin Grafting: For Traumatic Amputation of Finger Tips. F. R. Zadik.—p. 335.
Dextrose and Citrate Anticoagulant Solution. W. N. Hailstone.—p. 336.
Preparation of Scorpion Toxin. A. H. Mohammed.—p. 337.
An Unexpected Choledochogram. W. I. de C. Wheeler.—p. 337.

Laboratory Infection with Murine Typhus.—Van den Ende and his collaborators report accidental infection of 12 workers in two separate laboratories with the rickettsias of typhus. They had all been immunized with typhus vaccine. Apparently the vaccines did not afford absolute protection. The illness was not severe, although 3 of the patients were 45 years of age or more. It is probable that the vaccines conferred partial immunity, and this may account for the failure to isolate the causal rickettsia from the circulating blood. The disease was moderately severe in 3 cases and mild in others. In 11 cases infection can probably be attributed to the inhalation of infective droplets during intranasal inoculations of mice under ether anesthesia. In the remaining case infected dust may have been the source. The early diagnosis of typhus is not easy. The rash does not appear before the fourth to sixth day, and even then the diagnosis may be difficult. Splenomegaly when present was late. The production of a characteristic febrile illness in guinea pigs by inoculation of fresh blood from patients during the febrile stage has often been suggested as a diagnostic aid. At best this test is slow and cannot be of value for the early diagnosis. The Weil-Felix reaction is seldom significantly positive before the seventh day and in mild cases may be further delayed. The blood picture may be helpful. In the present series of rather atypical cases a definite tendency to neutropenia with a relative or absolute monocytosis was a feature in the first week of infection. It is impossible to say whether these findings are applicable to natural infection with murine or louse borne typhus.

Immediate Skin Grafting.—Zadik treated a series of 27 cases of amputation through the terminal phalanx of fingers with two different methods of full thickness skin grafting and 8 controls by allowing the wound to granulate, some in a closed plaster cast and some without it. All were treated as outpatients. Flap grafts and free full thickness grafts were compared with each other and with controls. Flap grafts were found to be reliable and to give good results but to be rather difficult to do in the casualty room and uncomfortable to the patient. Free grafts with immobilization in plaster are easier to do but not so reliable; they will usually give fair results, however, even if the graft does not take completely. Letting the wound granulate, even in a plaster cast, is not a method of choice in amputations through the terminal phalanx.

Lekarz Wojskowy, Edinburgh

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Notes on Health Service in an Armored Division. S. Rouppert.—p. 199.
*Account of Epidemic Louse Borne Exanthematic Typhus. L. Owczarewicz.—p. 204.
Concerning the Future Health of the Country (Poland). B. Jedlewski.—p. 222.
Fight Against Rheumatism in Great Britain. A. J. Mester.—p. 225.
Gas Gangrene. W. Rzepecki.—p. 228.

Epidemic Louse Borne Exanthematic Typhus.—Owczarewicz states that the home of typhus is in the eastern part of Poland, Russia and the Balkans. In a Russian regiment billeted in peasant huts in a village in eastern Poland in which community the inhabitants showed no signs of typhus, up to 100 cases a day occurred among the soldiers. After disinfecting their clothes, bathing and transferring to nearby barracks the epidemic stopped in a few days. Contaminated countrysides with the population intact are known not only in the history of typhus but with diseases such as dysentery, cholera and meningitis. It has not been proved whether the virus can be spread by the so-called bacillus carriers. The blood of typhus patients has been proved not to be infectious after the remission of fever. The secretion of virus by the patient is uncertain. A man who has had typhus is immune, but he can transfer infected lice. In peacetime army leave was prohibited to typhus infected areas during epidemics. Every soldier when returning from leave was compelled both to bathe and to become disinfected. In many cases epidemiologic researches were not sufficient to find the source of infection. Zwierz, a Polish scientist, obtained a positive Weil-Felix reaction from rats from eastern Poland. The brain of these rats, as in the case of blood of typhus patients, was contagious. The author considers the role of rats as a typhus virus source to be uncertain. Based on his own experiences during the first world war he believes the mortality among the populations of cities, especially among white collar workers, to be greater than that of rural communities. He also noticed that infection among motorized units was least, probably because gasoline kills lice. Perfect decontamination could be carried out only far behind the lines where the medical staff was supplied with better and greater possibilities than was obtainable in villages, which are usually poor and contaminated. The author considers the best preventive lotion to be a mixture of gasoline, xylene and oil. A few drops of turpentine deodorize this mixture. This lotion and its vapor kill lice easily. Some scientists say that the head louse assumes the same role in epidemics of typhus as the body louse, a fact worth remembering when fighting an epidemic. The author considers an epidemic in this war as very probable and thinks that there are two ways of meeting this danger: the preventive one, to keep the forces from becoming contaminated, and vaccination, a way which was unknown in the last war. In Poland the vaccine that Weigl produced from the intestines of lice contaminated by Rickettsia prowazeki has proved effective. Vaccination is not perfectly safe and efficient in poorly nourished people. If the present war ends in the cold season, when epidemics of typhus generally start, it is probable that an epidemic will break out all over Europe as it did after Napoleon's return from Moscow.

Book Notices

Bronchiectasis: Pathogenesis, Pathology and Treatment. By James R. Lisa, B.S., M.D., Pathologist, City Hospital, Welfare Island, New York, and Milton B. Rosenblatt, B.S., M.D., Associate Visiting Physician, City Hospital. Cloth. Price, $4. Pp. 190, with illustrations. New York, Toronto & London: Oxford University Press, 1943.

This is an interesting monograph on a subject about which much has been written but apparently not in as complete a form as is presented here. Twenty-six pages are devoted to a description of the anatomy and physiology of the bronchi. The bulk of the book is devoted to a discussion of the pathogenesis and a description of the pathologic anatomy of bronchiectasis, and the remainder to the clinical aspects and to treatment. As surgical treatment is the one of choice, the subject is covered in a few pages. One who is interested in bronchiectasis will find ample and excellent discussions of the subject, a wealth of material gleaned from well over two hundred references, a consideration of a good deal of controversial matter, of which there seems to be no lack, and beautiful illustrations and makeup. A short summary, barely a page, tells the authors' opinions on the subject. This little volume should prove a real addition to the library of one interested in pulmonary disease.

Endoscopic Prostatic Surgery. By Roger W. Barnes, M.S., M.D., F.A.C.S., Professor of Clinical Urology, College of Medical Evangelists, Los Angeles. Cloth. Price, $6. Pp. 232, with 104 illustrations. St. Louis: C. V. Mosby Company, 1943.

Among the recent developments in the field of urology the relief of prostatic obstruction by the transurethral method is deserving of first place. In a monograph dealing with so specialized a subject it is unfortunate that the author did not include a complete history of transurethral procedures, some of which were used more than a hundred years ago. The anatomy of the prostate, bladder neck and trigone as it relates to resection is well presented. The section on pathology is limited to lesions at the bladder neck. Secondary changes in the bladder and ureters and kidneys, so important, are not discussed. The examination of the patient, both local and general, including the use of special laboratory tests and instruments of precision, all of which have become standardized procedures, is presented in detail and its importance stressed. The need of preliminary treatment, now so universally recognized by all urologists, is well outlined. The author covers the subject of anesthesia in detail. A chapter is devoted to the history and development of the coagulating current, and here the urologist will find an easily readable presentation of the various currents used in resection. The technic of resection with the Stern-McCarthy resectoscope is given in great detail and well illustrated. Postoperative care and preoperative treatment, which are equally important, receive due consideration. Attention is called to the accidents that occur during the performance of transurethral resection and their treatment. This monograph gives the present status of transurethral resection in a concise manner and it is well illustrated. It is a handy reference work for residents and those receiving training in urology.

Man in Structure and Function. By Fritz Kahn, M.D. Volumes I and II. Translated from the German and edited by George Rosen, M.D. Originally published as "Der Mensch gesund und krank." Cloth. Price, $10 per set. Pp. 341, with 207 illustrations; 345-742, with 154 illustrations. New York. Alfred A. Knopf, 1943.

This work, originally published in German in 1939 under the title "Der Mensch gesund und krank," offers to the nonmedical reader unquestionably the best presentation of the structure and function of the human body anywhere available. Although the text is somewhat advanced for persons under senior high school age, the illustrations, which are by far the best part of the book, can be explained satisfactorily even to small children. There are more than four hundred and fifty illustrations and large plates which actually provide animated drawings of the tissues of the human body.

As a textbook of hygiene this work is especially satisfactory, since it adopts the rational point of view. Faddism is invariably deprecated. The considerations of vegetarianism and the use of tea, coffee, tobacco and alcohol are sound.

Following a brief consideration of the development of life and the structure of the skeleton and musculature of the body there are sections on circulation, respiration, digestion, nutrition, the nervous system, the sense organs and sex life. All sections of the book have been brought up to date, so that the information on vitamins, glands and modern methods of treatment is dependable.

The cost of these books is more than justified by the quality of the printing, the paper and the illustrations. Any physician who is requested to recommend to his patients a work in which they may gain insight into the structure and function of man will find this the ideal book for the purpose.

Novye dannye k fiziologii gipofiza: Rol gipofiza v osushchestvlenii effektov bolevykh razdrazhenii i v deyatelnosti nervnoy sistemy. [By] A. A. Danilov. [New Data on Physiology of Pituitary Body: Role of Pituitary in Effects of Painful Stimuli and in Activity of Nervous System]. Paper. Price, 15 rubles. Pp. 222. Moskva & Leningrad: Izdatelstvo Akademii Nauk SSSR, 1941.

The author summarizes researches carried out by him in the laboratory of L. A. Orbeli. The work was concerned with the elucidation of the role of the pituitary in the production of certain effects caused by painful stimuli and with the role of the pituitary in the activity of the central nervous system. Both problems are approached from the point of view of the evolutionary development of the anatomy and the physiology of the pituitary gland in the process of adaptation of living organisms to conditions of life. Part I of the book is devoted to a review of the literature on the subject of the comparative anatomy and the physiology of the internal secretions and of the pituitary in particular. Part II deals with the author's experiments on the role of the pituitary in the production of certain effects caused by painful stimuli. Part III deals with experimental data on the role of the gland in the activity of the central nervous system. In part IV the author presents his conclusions, the essence of which is that painful stimuli increase the secretory activity of the pituitary and that injection of pituitary substances into an organism increases its inhibitory processes. The literature on the subject is well reviewed. This is an interesting piece of physiologic research which should prove of considerable interest to workers in this field.

Control of the Common Fevers. By Twenty-One Contributors. Arranged with the help of Dr. Robert Cruickshank by the Editor of "The Lancet." Cloth. Price, 12s. 6d. Pp. 361, with 33 illustrations. London: Lancet, Limited, 1942.

Although the title of this book may conform to the English way of thinking, it seems to mask the true character of the contents. The word "control" is used in a broad sense to embrace not merely preventive measures and epidemiologic facts but also diagnosis and treatment. The first twenty-four pages, on general principles, describe many problems relating to the acute infectious diseases. This chapter serves as an introduction and is not dignified by a number, but it contains much modern thought and knowledge. Then follow twenty-two articles beginning with diphtheria. Other subjects are puerperal sepsis, rheumatic fever, the pneumonias, enteric fevers and bacterial food poisoning. In addition to the more common infections undulant fever, Weil's disease and the rickettsias are represented. Every chapter is by an authoritative author, and to each is appended a list of references. Numerous graphs and tables provide useful information. There is no general index, but a convenient arrangement under the heading "Register" is provided in the final pages. Here lists of authors, diseases, infecting agents, controlling agents and topographic data are presented and identified by page number. The volume supplies many facts which are not ordinarily found in textbooks relating to contagious diseases. It should appeal to those who have a special interest in the acute infectious diseases.

Variaciones respiratorias del electrocardiograma. Por Jorge Gonzalez Videla. Tesis de doctorado, Universidad nacional de Buenos Aires, Facultad de ciencias médicas. Paper. Pp. 165, with 28 illustrations. Buenos Aires: Aniceto López, 1942.

This is a well organized monograph in which the author emphasizes the importance of changes in the electrocardiogram during a deep inspiration and contends that an electrocardiographic study is not complete unless this is taken into consideration. This leading idea is supported by numerous examples and illustrated by excellent illustrations.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

VIRUS PNEUMONIA OR UNUSUAL ARSENICAL REACTION

To the Editor:—During the past year I have encountered two identical syndromes which can be classified by me only as "atypical pneumonia," and even this flexible term leaves much to doubt. Briefly, two employees of the sanatorium—one a Negro maid and the other a Negro nurse, the former found to have a positive serologic reaction for syphilis and a history of inadequate therapy, and the latter picked up with typical secondaries and a positive serologic reaction—were started with neoarsphenamine injections. In both cases after the fifth and seventh injections (0.45 Gm.) respectively there was a subacute illness characterized by cough, dyspnea and mild elevation of temperature. There were scattered rales over the majority of both lung fields, with areas of suppressed breath sounds and others in which there was bronchial character to the breath sounds suggestive of severe bronchopneumonia. However, neither of the patients appeared acutely ill. The most striking feature was the x-ray examination, which revealed diffuse soft shadows over both lung fields, being lightest in the extreme apexes, and in 1 case areas of rarefaction resembling cavitation. Numerous sputum examinations were negative for tubercle bacilli, and serial films showed gradual clearing on bed rest, so that over a period of approximately five months there was complete resolution of the shadows. In each case the x-ray examination of the chest had been completely negative within a few weeks of beginning arsenotherapy. There was nothing significant in routine blood counts and urinalysis, and the sedimentation rate was only moderately accelerated in both cases, showing improvement with clearing of the lungs. In summarizing, the following factors in both cases do not fit my present conception of virus or atypical pneumonia: the onset gradually of cough and dyspnea early in the course of arsenotherapy, the diffuse involvement of the lungs and the benign but prolonged course before clearing of pulmonary shadows. I should like to know if there is a possibility of this syndrome being a reaction to the neoarsphenamine. The nurse has been returned to employment here at the sanatorium and at present is receiving bismuth subsalicylate, which is tolerated well. I shall appreciate any suggestions as to the future precautions in regard to further use of neoarsphenamine in her case.

M.D., South Carolina.

ANSWER.—There is a possibility that the syndrome may be the result of a reaction to neoarsphenamine, but the cases described are unusual indeed. Reactions to arsenobenzenes are classified as immediate or delayed and the cases in question would be included among the latter. A variety of disturbances may develop after neoarsphenamine therapy, involving the skin, the liver, the heart, the gastrointestinal tract and the nervous system, but little or no mention is made of pulmonary reactions.

In one article (Wright, C. S.: Syphilis, in the Cyclopedia of Medicine, 1940, vol. 14, p. 745) it is stated that "another unfavorable symptom is the development of a bronchopneumonia." The pneumonia which occurs, however, usually accompanies severe exfoliative dermatitis (apparently absent in the cases referred to) and may be incited by a similar exfoliative process of the lining of the pulmonary air passages. Syphilitic pneumonia has been described but is apparently not to be considered in the present discussion.

On the other hand, it is also possible that both patients had atypical or virus pneumonia. The points which the questioner raises against this diagnosis do not rule it out. There is no reason why patients receiving any form of therapy cannot develop pneumonia, the involvement of the lungs in virus pneumonias may be diffuse, and the pulmonary shadows may persist for long periods.

There are no rules whereby one may predict future recurrences of reactions after arsphenamine therapy, except that if a patient reacts unfavorably once he is apt to do so again. According to the advice of Robinson (The Resumption of Antisyphilitic Therapy Following Postarsphenamine Reactions, *Pennsylvania M. J.* **46**:667 [April] 1943) continued therapy seems advisable in the case of the nurse, if the severity of the reaction did not outweigh the importance of treatment in an early case. Perhaps the substitution of an arsenoxide drug such as mapharsen would be desirable. On the other hand, regardless of the type or degree of syphilis, when blood dyscrasias, exfoliative dermatitides or involvement of the nervous system results from therapy, resumption of treatment with arsenical compounds should not be considered.

INHERITANCE OF RETINITIS PIGMENTOSA

To the Editor:—If a man has retinitis pigmentosa and is married, should the wife be advised not to have children and, if not, should such a case be grounds for performing a therapeutic abortion? The man is 30 years of age.

M.D., New York.

ANSWER.—There has been a good deal of discussion about the question of prevention of childbirth in patients with retinitis pigmentosa. The conclusions seem justified that, since retinitis pigmentosa is recessively inherited, the chance of its being transmitted to the offspring of one affected person is slight or, in fact, almost impossible. It is stated that the only way in which cases of retinitis pigmentosa can occur is by a union between an affected person and a nonaffected person who is a member of a family that is affected with retinitis pigmentosa. This may be the case even though no known cases can be traced in the family. The chances of trouble are so remote that the couple in question probably need not refrain from having children and a therapeutic abortion would not be indicated.

EXPRESSING QUANTITY OF ROENTGEN IRRADIATION

To the Editor:—In x-ray therapy how is the roentgen estimated? For example, how would such a dose as the following be expressed: 5 ma., 86 Kvp., at 8 inch distance for one minute?

N. S. Fraser, M.D., St. John's, Newfoundland.

ANSWER.—The quantity of irradiation given is measured in roentgens. The most satisfactory and simplest instrument is the electroscope with an ionization chamber attached. The ionization chamber is placed in the direct x-ray beam. Readings are taken either in air or on the skin. Higher readings will be obtained with the ionization chamber on the skin, as the result of "backscattering" of the rays. It is necessary when recording dosage to specify whether the readings were taken in air or on the skin. The lower the kilovoltage, the greater the "backscattering."

Example: 5 milliamperes, 86 kilovolt peak, at 8 inches target skin distance, no filter added. Roentgens measured in air. Half value layer: this is the amount of the specified material (usually aluminum at lower voltages) necessary to reduce the intensity (roentgens) of the beam of x-rays to one half of its initial value.

ETIOLOGY OF GANGLIONS

To the Editor:—Will you please inform me of the current opinion relative to the etiology of simple ganglions (cystic tumors in tendon sheaths). I am especially interested in knowing whether or not trauma (either single or repeated) is believed to be an etiologic factor in their development.

A. L. Kefauver, M.D., Columbus, Ohio.

ANSWER.—The etiology of ganglions is still not clear. The best judgment is that they result from a low grade inflammatory process developing within the joint capsule or over the periosteum of the small bones about the wrist. They have no relationship to the sheaths of the tendons, as is often suggested, except proximity. That misconception is responsible for the fact that incomplete removal is common and invariably followed by recurrence.

There is no definite evidence that trauma is a factor in the development of this condition.

LEFT HANDEDNESS

To the Editor:—A girl aged 3 years prefers using her left hand when eating and writing. Should I advise her parents to encourage her to use her right hand, in view of the fact that this is a right handed world? At this age, in my opinion, it is difficult to determine the predominant hand defnitely. Does it cause any ill effects to make her right handed?

Bernard S. Dignam, M.D., Thompsonville, Conn.

ANSWER.—The parents should encourage the child to use the right hand in eating, since this is the only situation that occasions social embarrassment. Ill effects may follow if a predominantly left handed child is forced to use the right hand. The development of finer coordinations in general tends to be interfered with.

DENTAL INFECTIONS AND URINARY INFECTIONS

To the Editor:—Are infections about the teeth considered one of the sources of infected (surgical) kidney? I am informed that this opinion is now obsolete and untrue.

M.D., California.

ANSWER.—Infections about the teeth are definitely considered the source for infected kidneys of any type. There is nothing especially characteristic about this type of infection that would make it surgical but any kidney infection, under proper conditions, may become subject to surgery.

It is a general procedure in the urologic clinics of the country to search for distant foci and eradicate them in the presence of upper urinary tract infections of any sort.